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"I cannot help plead to my countrymen, at every opportunity, to cherish all that is manly and noble in the military profession, because Peace is enervating and no man is wise enough to foretell when soldiers may be in demand again."—SHERMAN.

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DISCIPLINE: ITS IMPORTANCE TO AN ARMED
FORCE, AND THE BEST MEANS OF PROMOTING
AND MAINTAINING IT IN THE UNITED
STATES ARMY.

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DISCIPLINE is a difficult word to define, because it has a mental and moral, as well as a physical, aspect, and refers not only to a person alone, but to that person in his relation to others. It means "obedience and subjection to authority," but it means more.

Hamley, in his "Operations of War," says, "Discipline is made up of a number of different qualities," and "it is only by a proper understanding and appreciation of these qualities and a knowledge of their mutual relations, that a successful discipline can be obtained, and when obtained, can be kept up."

Discipline is a condition of heart, and is to be obtained through careful and thorough instruction. On the one hand, it aims at overcoming fear, love of pleasure, indolence and antipathy to restraint, with the view of bringing the whole nature under control; while on the other it aims at guiding and directing the more noble emotions of enthusiasm, patriotism and devotion to a cause, bending all to the general good, and above all, inspiring a strong sense of duty for duty's sake.

To say that discipline is important to an armed force is almost to state an axiom. It has been well said that "discipline is the bone and sinew of an army and the basis of its

strength." History proves that military discipline and success in war go hand in hand. Jomini says: "Concert in action makes strength, order produces this concert, and discipline insures order, and without discipline and order no success is possible."

Darwin, in his "Descent of Man," says: "The superiority which disciplined soldiers have over undisciplined hordes is principally a consequence of the confidence which each man places in his comrade."

Mayne says: "Mutual and not independent action is the secret of success in war, and for mutual action to exist, there must be discipline, direction and control."

The great object of all discipline is, then, not only to preserve order and cause obedience and subjection to authority, but also to establish and maintain those intimate mutual relations between the individuals of an army which in war will render mutual action possible.

Discipline in time of peace oils the cogs of daily administration, and smoothes and straightens the various paths of duty of all concerned; in time of war it binds together different units, inspiring them with a common impulse to duty, and enables them to forget privation, suffering, even the fear of death, in carrying out the plans of the commander, whether they result in glorious victory or overwhelming defeat.

Col. Brackenbury, R. A., says: "Most men who have seen a great deal of war have come to the conclusion that it is not the bullets, or the bayonets either, but the men and the hearts that are in the men. You do not sweep the enemy away with your bullets or your bayonets; you do not with your bullets kill all those who are opposed to you, and then walk over their bodies; you do not with your bayonets thrust your adversary through, for the bayonets rarely meet; but what happens is this: one side showing a firm front, courage, determination and discipline, whatever be the conditions, produces on the other side a sinking of the heart, which causes the weaker-hearted to run away. I do not care whether you call it the bullet or the bayonet which is the means to this end, but the real fact is that the side which has the greatest moral force wins."

This word force, combined as it is of courage, a sense of

duty, confidence in a leader—is, in a word, the fruit and result of discipline, and is to be acquired only by careful instruction and training through the studious and painstaking effort of those whose duty it is to develop it. The practical method of producing and maintaining this quality in the most perfect degree is the problem to be solved.

First of all, it is necessary that a soldier, through his training, should acquire proper habits of action. When the senses are blunted by the danger and excitement of battle, a man will, almost without volition, certainly without reasoning, do those things which, under like circumstances, he has learned to do through habit. Of these, the habit of obedience is most important, and should be the first thing taught a soldier. But with some men it takes years of training before the habit of unquestioning, hearty and prompt obedience under every circumstance is acquired. The obedience should not be technical and stop with the performance of the letter of the order, but should be coupled with a desire to do everything possible to further the wishes expressed, and thus carry out the spirit as well.

But beyond this, the habits formed at drill and throughout all the hours of each day of military life should be such that the soldier will, almost without realizing what he is doing, do the right thing at the right time. To teach a soldier to do a certain thing by constant drill and expect him to do something else in a similar position under other circumstances, is folly. The lack of conformity of our skirmish target practice to our present battle formation has recently been shown in the pages of this Journal, and the point well taken that they should be the same. Both the battle exercises and the skirmish target practice should be made to conform just as nearly as possible to the actual condition of a battle and the men practiced frequently in them. Then, when the battle comes, the soldier feels at home, there is but one new element introduced—that of danger—and he knows, whatever his rank, something of what is expected of him, and will probably do it. Inculcating correct habits in a soldier is teaching him discipline.

The old shoulder-to-shoulder discipline is a thing of the past. All that was required of a soldier then is required now, and more. The unthinking, uneducated "food for powder" soldier

no longer fills the requirement. He must be taught what to do and what not to do for himself. His individuality must be developed and trained, and yet so moderated and controlled as to admit of perfect and certain mutual action. Therefore, discipline of a different kind and even greater degree is needed more now than formerly.

But greater requirements have been met by a better class of men. The enlisted man of to-day is far ahead, in point of intelligence and education, of the enlisted man of the Regular army before the war, and if it is more difficult to obtain from him unquestioning blind obedience, he is better fitted to understand why, under certain circumstances, he is required to do certain things. The discipline needed, therefore, must control such units, at the same time guiding and fostering individualities without stifling them.

The first battle of Bull Run furnishes an excellent contrast between the actions of well disciplined and poorly disciplined troops and shows incidentally the value of discipline to an armed force in battle when the result of the battle is defeat.

General James B. Fry, in his description of that battle, says: "The Federals [mostly three months' volunteers] left the field about half-past 4. * * * Cohesion was lost, the organizations with some exceptions being disintegrated, and the men quietly walked off. There was no special excitement except that arising from the frantic efforts of the officers to stop men who paid little or no attention to anything that was said. * * * Sykes' battalion of Regular infantry, Palmer's battalion of Regular cavalry and Arnold's battery of artillery covered the rear as the men trooped back in great disorder across Bull Run."

The disorderly retreat of the volunteer troops finally became a headlong panic, while the better disciplined Regulars held together and covered the rear. Only the fact that the Confederate troops were in much the same condition as the flying volunteers prevented a great disaster.

Discipline is necessary also in a victorious battle. Instances are not rare in history where an attacking force, completely victorious at the outset, has, through lack of discipline, lost all cohesion, its individuals scattering to loot and pillage, laying itself open to serious ultimate defeat from the enemy's rallied

or fresh troops. The much debated battle of Shiloh furnishes an excellent example.

There seems to be little doubt that, after Sherman's and Prentiss' camps were captured by the Confederates in the first day's fight, the attacking forces on that flank ceased the advance and stopped to plunder the camps. The Union troops had recently been paid and the sutlers' tents were filled with such stores as they usually carried. General Lew Wallace, in his letter to General Grant, speaking of his regret that Major Rowley overtook his command and turned it back, says:

"The first of the rebels struck would have been the horde plundering the sutlers and drinking in the streets of the camp."

This result of poor discipline, together with the death of General Johnstone, probably prevented the Confederates from reaping a great victory.

Then, too, men, whose blood is heated with the excitement and frenzy of battle, where discipline is poor, will commit atrocities upon a defeated enemy, which, at other times, they would look upon with horror, and which may bring lasting shame upon the organization to which they belong and the cause which they support. The outrages of the French under Suchet at Tarragona, of the British under Wellington at Badajoz and the atrocities committed by the Indian allies of the British under Burgoyne furnish excellent illustrations.

Discipline is also necessary in an invading army to prevent serious depredations and atrocities being committed by the troops upon non-combatants which are not only to be deplored on the grounds of justice and humanity, but which have often so incensed the inhabitants as to seriously interfere with operations and present additional difficulties to invasion.

But necessary as discipline is during and succeeding a conflict, whether victorious or otherwise, it is even more so during the many operations that finally lead up to the battle. In the heat of action there are many sensations that operate against fear and hold men up to their work. The joy of battle, pride, excitement and anger are present urging men forward, but when these are absent and deadly fatigue, discouragement, hunger and all manner of discomforts are present, only a sense of duty, the existence of discipline, will control them.

Before entering upon the third division of our subject: "The best means of promoting and maintaining discipline in the U. S. Army," it may be well to glance for a moment at the national characteristics of the personnel of that army.

The officers are, in the main, American; the three nationalities, American, Irish, and German embrace the bulk of the rank and file. The American, taught from his youth to believe in liberty of action and equality, in the main educated, all avenues of advancement and the acquisition of wealth open to his merit, his connection with labor organizations and strikes have given him a mild contempt for those over him in the civil world, and a feeling of irresponsibility to them. It is probably this class that has the most to learn in the way of discipline, upon entering the ranks. But he has the intelligence to learn, and understand the reasons for many things. From him will probably be obtained a reasoning and understanding subordination rather than a blind ignorant obedience. Intelligent, ambitious, fertile in resources and courageous, he is capable of independent action and responsibility and ultimately makes the ideal soldier.

The German, deliberate and phlegmatic, coming from a strict home discipline, if not just from the ranks of the Fatherland, is easily subordinated to the strictest discipline. He can usually be depended upon to perform the letter of what he is told, and to stick to it with pertinacity and obstinacy. He is better shoulder-to-shoulder than where more individuality is needed, but when his slow-rising passions are once thoroughly aroused, control is often necessary to prevent him going too far.

The Irishman is, as a rule, indifferent to danger, and has a disposition so cheerful as to often rise above the most depressing hardships and fatigue. But he is impulsive and often chafes at restraint. Fond of excitement, he dislikes the humdrum routine of garrison life, and the need of discipline not being understood, it is apt to become irksome to him and to be viewed in the light of oppression. He is capable of strong and devoted attachments and is of a lovable if somewhat unstable nature.

The officer who can command the American's respect, the

German's confidence and the Irishman's love will be a successful commander in our army.

In considering discipline for the army of to-day, it must be remembered that its soldiers are men of a very different stamp from those of some years ago, and that many of the checks and restraints necessary then are unnecessary and galling now. Modern methods of warfare require that soldiers should be self-reliant men, and to hedge men in with a multitude of minor regulations, so that guidance for each step of his daily routine is laid down for him, destroys self-reliance and greatly increases the probability of his breaking regulations and getting into trouble. The rules should be so stated that right principles are inculcated and the soldier allowed some freedom to govern himself as long as the principle is not transgressed.

Obedience is the foundation of all discipline, and, as a rule, the more perfect the obedience, the better the discipline. A soldier is properly trained in obedience when he promptly and cheerfully obeys every order of his superior, even to the sacrifice of his life. The obedience should also be coupled with a sincere desire to do all in his power to further the desires of the superior, and thus carry out the spirit as well as the letter of the order.

Of first importance in this connection is the giving of orders. An officer's duty does not end with the giving of an order. The order must be followed by immediate and cheerful compliance, and it is the duty of the officer to see that this is so, and the manner in which the order is given will have a very great deal to do with it.

Military courtesy between the individuals of an army is of great importance, and there is probably no service in which officers are as careful of its exercise toward inferiors as in ours, though some attention to non-commissioned officers in this connection is necessary. Nothing so humiliates and embitters the spirit of an individual, if possessed of any manhood, as to be sworn at by a superior, and any superior guilty of such conduct should be severely dealt with. When officers and non-commissioned officers fully appreciate the principles of courtesy, the administration of the organization to which they belong is greatly simplified and heart-burnings and secret animosities in the rank and file are largely eliminated. "For prompt obedi-

ence, mutual respect is necessary." Tact is a valuable component of an officer's character, and while it is largely a natural gift, it is also to be obtained by careful self-education. An officer without tact, with a conscientious desire to maintain a strict though not harsh discipline in those under him, will often find himself in difficult positions, from which it seems impossible to escape without undue laxity or undue harshness.

It is the firm and steady quality in a commander that obtains discipline. The officer who maintains an average by undue severity at one time and undue indulgence at another will never have good discipline in his command.

It has been well said that the faculty for so giving an order as to leave the impression that it is as much the duty of him who gives the order to give it as of him who receives it to obey it, is a most valuable one to cultivate. An officer should, therefore, feel that it is his duty to give an order before doing so. Petty, unnecessary and trivial orders are to be avoided, for they become worthy of consideration only when disobeyed.

The order, when given, should be clear and concise, and stated in such terms that there can be no doubts in the mind of its recipient as to just what is intended. The giver must have a clear understanding of just what he wants, and then must express his wishes clearly and intelligently and in as few words as consistent with being properly understood.

The character of the commanding officer is a direct and important factor in the discipline of the troops under him. "The greatest talent of a general," says Plutarch, "is to secure obedience through the affection he inspires," and popularity of a commander is an important element in promoting discipline. A popular officer can command enthusiastic support where another would secure only perfunctory obedience. Napoleon's popularity in his armies is well known, but it was probably never put to such a severe test as in the retreat from Moscow. Of the immense army which crossed the Niemen on the advance there remained but 400 infantry and 600 cavalry with 9 guns when the stream was crossed again on the fourteenth of December. And yet, throughout the horrors, suffering and hopelessness of this long retreat, so strong was the affection of the army for the Little Corporal that not a voice was raised against

him for having brought them into such a strait. Such popularity is not to be obtained by openly bidding for it, but rather by avoiding the appearance of seeking it. Firmness, justice and ability, coupled with industry and an intelligent regard for the welfare of his subordinates are the qualities that make a commander popular. When these qualities are present, the strictest disciplinarians have been most popular with their commands. Cæsar, Gustavus Adolphus of ancient times and Skobelev of ours were almost worshipped by their followers, who were subjected to the sternest discipline.

Fussiness is a detrimental quality in a commander. An officer who worries himself will worry every one around him, and in his anxiety will magnify molehills into mountains, and very often fail to grasp the essential features of the conditions in which he is placed. The instance is familiar of a commanding officer giving his personal attention for an hour to getting a baggage wagon across a miry stream while his command waited until unable to make an important tactical combination which was expected of it.

Another instance of the same kind occurred several years ago at a post where a Department Rifle Competition was being held. The range officer reported to the commanding officer who was on the range that more pasters were needed at the butts. The commanding officer directed his orderly to go to the post, distant a quarter of a mile, and get some pasters. The orderly had gotten well started when the officer noticed the Ordnance Sergeant not far off and sending for him, directed him to go up to the post and see that some pasters were sent down. The sergeant had not gotten out of sight before the Ordnance officer happened along and he was sent up to the post to see that the Orderly and Ordnance Sergeant complied with their directions. He had not gotten fairly started until the commanding officer began to wonder why those pasters did not come, and upon their not arriving in a few minutes, he posted off himself on the trail of his three messengers.

Careful attention to details is one thing. Fussiness is another, and it involves the officer's burdening himself with a multitude of responsibilities for minor details that the habit prevents him delegating to subordinates.

An officer of such a character is apt to keep the members of his command constantly in hot water by issuing a multitude of petty orders of a harassing description and enforcing trivial regulations with a severity proportionate only to matters of greater importance.

An officer who participates, as much as possible, in the hardships which his men have to undergo adds greatly to his influence over them. It is not apt to conduce to the patience and subordination of the members of an infantry company camping or bivouacking in the wet and cold with only the blankets they have carried on their backs to know that their officers are comfortable with the spring cots and voluminous bedding rolls carried on the baggage wagons. Where officers and men are subjected to the same discomforts and hardships, the example of the former in fortitude and patience will have great effect, and there will be little grumbling. Washington, at Valley Forge, is an example worthy of emulation. The late Emperor Frederick of Germany was renowned for his indifference to his own personal comfort. The following extract from his diary written after the battle of Königgrätz indicates his character in this connection: "With straw and the like, we made ourselves as comfortable as we could in an empty house without furniture, and after living on bread and cognac all day, we supped on a loaf of ammunition bread which we had chanced to buy from a camp sutler."

Officers who share the hardships of their men obtain a great influence over them, and when the latter clearly understand that the officer who shares with him their discomforts and their glories participates also in their misconduct and feels that misconduct upon their part is, in a sense, disloyalty to him, they get to view such action as ungrateful to an officer from whom they have received kindness and consideration and whom they consider somewhat in the light of a comrade. It is not unusual for soldiers to restrain themselves and better their behavior, not from self-respect, but from respect to and affection for their officer.

Want of confidence in the courage or ability of a commander, on the part of his men, is a deadly evil, opposed to all moral discipline and brings discontent and mutiny in its train.

Independence of thought and the ability to separate personal and official relations are necessary qualifications of a good commanding officer and are conducive to good discipline. A commanding officer whose official actions are swayed by personal feelings or home influences is apt to have poor discipline in his command. It is galling to the men and inferior officers to feel that their treatment by the commanding officer is influenced by the orders or desires of "*Madame le General*." Cliques in a military organization by which a commander surrounds himself with a few favorites, allowing himself to be influenced by them in his official actions, are detrimental to discipline for similar reasons.

Strong drink, gambling, and women are the three great enemies to discipline in an army. It is the experience of nearly every company commander that a large percentage of breaches of discipline are directly or indirectly traceable to the abuse of strong drink. A company in which, through a long Indian campaign far from civilization, in which bravery and endurance to hardships are severely tested, will often have scarcely a single serious breach, and yet upon return to garrison and proximity to supplies of intoxicants will have a dozen men tried by court-martial within a week after pay day. It would be a good thing as far as the discipline of the army is concerned if the country could be made prohibitory.

The Post Exchange is an institution of recent growth in the U. S. Army and from the orders establishing it in lieu of the post trader's store, it is for the purpose of supplying members of the garrison with small necessities at a reasonable cost. It is incidentally stated that, while intoxicating liquors are forbidden, beer may, with the sanction of the commanding officer, be sold. It can scarcely be denied that, in most exchanges, the monthly sale of beer is ten times more than that of all other articles put together, and that, whatever the intention expressed by the order the sale of beer is primary, in amount at least, and not incidental or secondary to the sale of small necessities. Thus the tail wags the theoretical dog.

The theory upon which beer is allowed to be sold in a garrison by post exchange is that it keeps the men from going out of the garrison to other and more questionable resorts where the

sale—and that of more injurious liquids—and any consequent misconduct cannot be so well controlled. From the language of the order prohibiting the sale of intoxicating liquors, the theory is also held that beer does not come under that head.

The first theory is all right so far as it goes. It does keep men in garrison, because in a great many post exchanges, especially in the West, they can get twice as much beer for their money as they can outside. But the beer is sold them by a comrade, often a non-commissioned officer detailed for the purpose and under the direction of a commissioned officer, and the stamp of approval is thus placed upon their drinking it. If the theory is good in the case of beer would not the same theory hold in adding gaming rooms to the exchange, which could be kept under control as well as the exchange bar-room and would operate as well in keeping the men in garrison. The theory that excessive use of beer will not cause intoxication must be known to be false by every officer who has seen its effects upon his men.

The post exchange in our army is copied from the canteen of the English service, and yet a distinguished English officer wrote in 1889, "The canteen, unless a good deal of trouble is taken about the management of it, may be a regular curse to a regiment, only in a small degree less objectionable than the low drinking shops which cluster like fungus growths round a barrack or a camp. It may be and will be, unless some one takes the trouble to see that it is not a great evil, and it is usually a rather dangerous place in the fight for discipline."

With a certain class of men the selling of beer in a post exchange can do no harm. They would not abuse its use there any more than they would anywhere else—but to others it is an ever-present source of evil. The theory of control, that is, stopping the sale to any one man before he becomes under the influence of it, is incompatible with "keeping the men in garrison." A man who is addicted to strong drink is much more apt to leave the garrison for more liberal potations *after* his appetite has been whetted and the supply of beer stopped by control than he was *before* he had had anything to drink. The interests of best discipline require that it be made more *difficult*, not more

easy, for the bibulously inclined to secure beer or any other intoxicant.

In many garrisons in the West the exchange, having no rent to pay and buying beer in carload lots is able to, and does, sell it for half the price charged by its disreputable competitors outside of the garrison. The institution thus doubles the beer purchasing power of the soldier's money. In many garrisons the men are allowed to go into debt to the exchange to the amount of a certain percentage of their pay, and the facts will bear out the statement that nine-tenths of those who go into debt to the exchange go into debt for beer.

The fact that the sale of beer is productive of large profits, which go to swell the company funds and return ultimately to the improvement of the soldier's fare, is considered by many company commanders as largely offsetting the evils resulting from its sale. Indeed, if there were no profits, or they did not accrue to the company funds, there would probably be few captains to favor the sale of beer. But, as it is, the fact is a silent and ever-present encouragement to the men to patronize the exchange, and it enables the hardened guard-house veteran to boast to his abstemious comrade that the former, and not the latter, pays for the good things added to the rations in their daily fare.

The bar-rooms in exchanges bring men in relations to their officers and non-commissioned officers that cannot but be harmful to discipline. The sale of intoxicants has always been a vocation that is looked down upon in our country, and more than one officer, detailed against his inclination, has had cause to blush when home on leave when they have been questioned regarding their connection with the "Government ginmill." There probably has never been any time, since the war at least, when it has been as desirable as now that the army should appear as well as possible in the eyes of the civil world, and the standard of the character of its officers be kept at the highest pitch. As long as it is known that the latter must, under the regulations, engage in the liquor traffic to the extent of buying and overseeing the sale of beer, they cannot but suffer in public esteem.

But the exchange as at present constituted is largely under

the control of post authorities, and can be regulated better than it generally is. A soldier who abuses its privileges by becoming intoxicated should be forbidden entrance to the bar-room, and a sentinel, if necessary, so posted as to enforce the regulation. The amusement and lunch rooms, general stores, gymnasiums and the like that in many exchanges are adjuncts to the bar, are excellent things in themselves and help discipline, as they tend to make men contented and keep them within bounds, and such sources of comfort and pleasure form additional inducements for good men to enter the service.

Where gambling exists to any great extent in a command there will be frequent breaches of discipline. It should always be stamped out, and no non-commissioned officer be retained, as such, who is known to be a gambler.

Esprit de corps should be cultivated to the highest degree possible, and it is a great help to discipline. When the men feel that all of their misconduct reflects upon their own regiments and companies they will be less likely to be guilty of such themselves and more apt to be deterred by their comrades. Pride in their drill and the performance of all kinds of duty follows, and a desire upon the part of all to make their organization what they hope and believe it to be—the best in the service. Combined camps, in which all arms of the service are on duty helps to this end, and while there will sometimes be, at first, friction between members of the different arms, the tone of each is likely to be raised, and at the same time, petty jealousies will disappear and each arm will grow in respect for the others and the importance of the parts they will play when, if ever, they are all actors in the theatre of war together.

The question of obtaining and training good non-commissioned officers is one that has an important bearing upon discipline. There are in our service, a number of faithful and trustworthy non-commissioned officers trained in the old school of discipline, who are able to appreciate the increased advantage of the soldier due to the present system of more carefully attending to his needs and comforts, but who yet retain the stern sense of duty and loyalty to their officers that are the product of their early training. It is doubtful if the present system produces such non-commissioned officers and yet, in point of

education and intelligence, the crude material found in the recruits enlisted to-day is far ahead of that obtained before. Efficient and reliable non-commissioned officers make the mechanism of the company almost automatic in time of peace. But one or more non-commissioned officers whom the men or the captain cannot trust will produce a great deal of friction, bad feeling and insubordination. Every company commander of experience has found himself in the unpleasant position of judging between the conflicting stories of a non-commissioned officer in whom he has not implicit trust and an accused private. To let the non-commissioned officer or the men know that confidence in the former is lacking is fatal to discipline, while to punish the private unjustly is even worse; and it requires an officer of great tact and large experience to come out of the difficulty without injury to discipline. The solution of the problem of obtaining good non-commissioned officers consists in careful selection of the material followed by long and painstaking training. Men very young either in years or length of service should not be appointed except when there is an absolute dearth of better material. A man must be thoroughly disciplined himself before he can be expected to properly command others. A very young man must be of exceptional strength of character to command the respect of and to resent and prevent the older privates from "running in on him."

In the U. S. Army, the non-commissioned officers are practically chosen by the captains, whose duty it is to see that they are properly trained. Such men only should be selected for appointment as the captain feels that he can trust, and he should let them see that he does trust them fully, and that any betrayal of such trust will meet with severe and prompt measures. To publish an order and sew a pair of chevrons on a man's sleeves do not make him a finished non-commissioned officer. In the present system of battle tactics more is required of non-commissioned officers than ever before and time spent in training them to the fullest extent will not be spent in vain. In our service, the scope of such training is more limited than it might be. There are numbers of sergeants whose training as such, has included only the duties of a company guide, a small amount of extended order drill, guard and fatigue duty.

There are numerous lines of instruction in Minor Tactics that are valuable not only for the technical knowledge acquired, but that also test the abilities of the non-commissioned officers in command of parties, develop their individuality and ability and willingness to assume responsibility.

The difference in pay between privates and the various grades of non-commissioned officers is not commensurate with the dignity of the offices or the increased duty and responsibilities. Efforts have from time to time been made to rectify this, but have, owing to a mistaken idea of economy, been so far unsuccessful. If the grades carried better pay with them, they would furnish more shining marks for the ambitious, and a greater inducement for good men to enter the service.

Where it is possible, the non-commissioned officers should be quartered, if not in separate rooms, at least in squad rooms occupied by those of the same grade only. They should be protected in the privacy of their rooms, and no inferior in rank be permitted to enter except upon invitation or by consent of one of the occupants. Where difference of rank is shown so little recognition in difference of pay, everything possible should be done to emphasize it otherwise. Let the non-commissioned officers be shown by such separation and the action of their officers toward them, that they are different from and superior to their subordinates, and they will speedily impress the fact upon the latter. Separate tables or rooms at mess are desirable for the same reason.

The quality and quantity of the food supplied the troops of an army is an important factor in its discipline. Discipline aims at the perfection of the human machine, and without the proper amount and kind of food to repair waste and keep the machine perfectly in order, this is not possible. A man is apt to view things largely according to the condition of his stomach. If it is empty or disordered from improper food, his mental vision becomes more or less warped, and bad temper is apt to get the upper hand.

Human nature is the same in soldiers as in other people, and a man who is turned out of bed on a cold morning and marched off to "early stables" on an empty stomach, is not in a state of mind or body which is conducive to his keeping himself well

within the bounds of discipline if anything occurs to ruffle him. In our service the ration is quite sufficient, if properly cooked and waste guarded against, and when in garrison, or where full supplies can be obtained, there is no excuse, whether prepared in company or general messes, for the men being insufficiently fed. When there is a deficiency in quantity, quality or proper preparation of the rations, the ungratified appetite for nourishing food is apt to be satisfied by stimulants and to result in drunkenness and all the evils that follow in its train.

In the larger part of our army, the preparation of food, like many other things that affect discipline, is in the hands of the company commanders, and careful attention and supervision upon their part will have a very beneficial effect, for a young recruit, who is daily adding bone and muscle to his frame and whose appetite is correspondingly vigorous, will have plenty of temptations to violate rules, before he has become thoroughly disciplined, without having an empty or half-filled stomach to aggravate them.

The phase of the subject known as "Fire Discipline" is of prime importance and the solution of the problem of obtaining it has occupied and is still occupying the best military minds of the age, and it is probably true, as has been recently stated, that the victorious army of the future will be that one having the best fire discipline. There are few things demanded of a soldier more difficult for him to do than to remain under fire without returning it, and the tendency of an undisciplined soldier is to give vent to his excitement by firing off his piece just as often as possible, without intelligence, aim or anything else but the sense of action. The introduction into warfare of modern weapons at the same time facilitates the rapid consumption of ammunition and brings about tactical changes whereby officers are further separated from their men and less able to control them, so that the problem is one not easy of solution.

The end to be desired is to be obtained through thorough education and training involving every one from the high commanding officers down to the newest private in the rear rank.

Unlike some other forms of discipline, real training in fire discipline demands the actual field of battle, though it is possible and desirable to prepare the way for it by constant practice

in time of peace under conditions that simulate as far as possible those of actual hostilities. A German officer has recently gone so far as to recommend that in extended order drill between two opposing commands, every tenth cartridge used be a ball cartridge, that the officers and men may feel the same excitement and sense of danger as in a real conflict and be trained to act rightly under such conditions. The control of fire is more easily obtained in the artillery both on account of the nature of the service of the pieces and their comparatively small number in proportion to the number of officers, but in the infantry where the number of pieces under each officer is so much greater and distributed over a correspondingly greater front, it is much more difficult.

In the first phase of a battle, when volleys are possible and proper, the matter is much simplified, but later, when fighting in extended order, the organizations become distended, broken and mixed. This is no longer possible, and the control of the fire passes into the hands of the inferior commanders and leaders or those of the men themselves.

It has been said that the men should be drilled until it "shall be a second nature to him to fire his rifle only under control of his superior and not otherwise," but this principle can be pushed too far. Officers and non-commissioned officers must have thoroughly impressed upon them the importance of their controlling the fire of their men as much as possible, but if in drill the men are taught to rely only upon their officers' commands, they will be embarrassed when in battle they cannot hear the commands because of the din of conflict or because the officer is *hors-de-combat*. With a company of the minimum size to which our present extended order drill can be applied, after the extended order is taken, it is difficult for the captain to make himself heard and understood when no cartridges are being used, and in action this difficulty will be greatly increased.

The control of fire lies principally with the company officers and non-commissioned officers. They and the men under them must be made to thoroughly understand how greatly the efficiency of fire is increased by a thinking, intelligent use of it, and that every cartridge fired carelessly and without effect operates to increase the danger, not only to the man who wasted it, but to

his comrades as well, and decreases by so much the probability of victory.

An eminent English authority on the subject graphically describes the phases of the battle and the importance of fire discipline, as follows: "Then as the advance progresses, as bullets fall thick and fast and many a gap appears in the ranks, excitement increases; the men want to fire rapidly, no matter whether they can see anything definite to fire at or not, and at once the officers have a harder task, but still a good deal of control can be exercised if the officers and men are accustomed to one another, and the tendency to fire wild can and must be checked.

* * * Then comes the other stage, when the action is at its hottest, when the opposing troops are well in view, and then is the hardest task of all, a task, too, which will fall in great measure on sectional leaders, and whenever an officer or non-commissioned officer can gather a group near him which can see him and look at him for guidance, he will exercise a very important influence on the fight * * * he will be able to insure fire being delivered when and where it will be effective; in fact, if each sectional leader will keep his head and use it he can do much in the way of control, and probably this is all that he can be expected to do.

"To sum up, fire discipline means decentralization of authority * * * Decentralize authority, educate individuals in peace with the greatest care that they may know their duty and in action let them do it."

There is too little training in battle tactics in our service. We still cling to the close order movements with their monotonous and interminable forms, right and fours left, to the detriment of the extended order, while efficiency in the latter is most important. The argument that most of the lessons of discipline can be taught better in close order ranks, and that carelessness, talking in ranks and other indications of lax discipline appear when extended order is taken, is good as far as it goes; but after the minor lessons are learned in close order, they can in time be enforced in extended order as well. Everything should be made to work toward the utmost possible fighting efficiency, and not until every man knows just what he and those under him should do in every position that can be foreseen

should drill and instruction along this line be suspended. In drilling in the simulated attack in extended order there should sometimes be a system of casualties, certain men of all grades falling out as from time to time indicated, so that when this necessarily happens in the real attack, the men remaining will not be at a loss to know what to do. This system accustoms all ranks to the sudden assumption of responsibility in the field and the performance of duties that may be required of them in the exigencies of battle. It furnishes a training of a high order and provides opportunities for the development of the best qualities of a commander in officers to whom in the ordinary routine the opportunity would come too late. Admiral Farragut attributed his wonderfully successful career largely to the fact that he obtained a command when a young man. In our service, where officers are often forty years old before they emerge from the line of file closers, any system that develops their individuality and the qualities of presence of mind, quick perception and the ability to assume the initiative, before long habit of subordination to a higher company officer renders it impossible, must be of great benefit. Young officers for this reason should seek detached service in command of detachments, details at colleges and the like. The system of skirmish target practice should be made to correspond as nearly as possible to the regular drill regulations for attack, as has recently been pointed out in the pages of the JOURNAL.

In our present extended order system the officers are separated more from their men than formerly and the responsibility and importance of having good non-commissioned officers is correspondingly increased. The old definition of discipline as "the art of inspiring soldiers with more fear for their officers than they have for the enemy" is without doubt, fallacious, for a discipline based upon fear alone is not of the best and would not stand against troops whose discipline was based upon better lines; and yet, it is within the experience of many officers that, in the heat and danger of battle, officers' pistols have been drawn and intimidation used to drive to their duty men demoralized by fear or panic. This duty of keeping men in hand and up to their work devolves more than ever upon the minor commanders.

The enforcement of discipline carries with it the necessity of punishment for acts prejudicial to it, though "Discipline enforced by punishment alone is a poor sort of discipline which would not stand any severe strain."

As has been previously stated, a high sense of duty must be developed, but with it should go the feeling that no offense will be passed over, but at the same time no offender will be unjustly dealt with.

That punishment will surely follow an offense is a fact which when once fully established will greatly lessen the number of infractions. In most men's characters there is an element that delights in chance, and when the company commander is weak or easily deterred by a plausible yarn from preferring charges against an offender, the uncertainty of what will follow their acts against discipline operates as an additional incentive to commit them and enjoy the zest of taking the chances. But when each infringement is followed by punishment, so that the first necessarily involves the second, offenses will decrease in number. Most officers dislike to inflict punishment on their men, and many are apt to welcome any plausible pretext for obviating it, but this is a mistaken kindness and operates against good discipline. Of course, there can be no iron-bound rule, and reprimand and admonition should be used in first or very minor cases, but as a rule, where a *prima-facie* offense has been committed it is better for the company commander to invariably prefer charges and leave the question of the seriousness of the case for the court to decide.

The same offenses under like conditions should merit and receive practically the same punishment. The present code limiting the maximum punishments for various offenses has done a great deal of good in this direction, but there is still a large latitude left to the courts, which probably cannot practically be curtailed, but which still admits the "lottery element" in the matter of punishment, and an offender may still feel that his "luck" has something to do with the punishment he will receive, and this can be only harmful to discipline. It is much better for the men to feel that they will surely receive a punishment "fitting the crime" than to feel an uncertainty whether they will escape very lightly on the one hand, or, on the other,

be very severely dealt with. As far as minor offenses are concerned the Summary Court Officer has this matter in his own hands, for the enlisted men of his garrison, and by giving it some attention can always adjudge like punishments for like offenses. It would probably be better if our punishments in time of peace, corresponded more nearly to what would be given in time of active hostilities. Guard duty is important under all circumstances. In time of war, sleeping on post is punished by death, but the proceedings of a court-martial published in G. C. M. O. 47, 1894, gives the sentence of a guard at the U. S. Military Prison found guilty of sleeping on post at night, "to forfeit ten dollars of his pay."

Corporal punishment, in our army, is forbidden by law, and yet it has, in some form, both during the late war and since, been frequently resorted to.

General Upton, in his book, says: "During the American Rebellion, there was scarcely a regiment in which corporal punishment in some form was not daily administered, and this from no desire to violate the law, but from a necessity to which many representatives in Congress can testify. Even the expedient of the field officer's court-martial failed in its object, for when troops were on marches, there was no time to take evidence and make out proceedings. When, therefore, stragglers and marauders returned to their regiments, the colonels adopted the sure and expeditious process of pronouncing a punishment, which, being brief in its character, allowed the offender to be restored speedily to duty." This seems a strong argument in favor of summary corporal punishment, and yet it did not have the result of preventing a recurrence of the offenses, for the punishment was inflicted *daily*. The punishment of death inflicted in the first case of desertion, marauding or other serious offense would probably have deterred others from offending in the same way.

A soldier who spends a large part of his time in the guard-house is a poor investment for the government that employs him. His service as a soldier is lost to his country, during his incarceration, and the attention of other soldiers is occupied in guarding and caring for him. The probability is that when he emerges from his confinement he will be a worse soldier than

when he went in. Unfortunately confinement is, in many cases, a necessity, both before and after trial, but it is a poor expedient at best, and the interests of discipline and economy require that it be resorted to as little as possible. A short solitary imprisonment in a dark or a white cell is preferable as a corrective measure, is less degrading to the offender and enables his return to his proper duties in a shorter length of time.

Long terms of imprisonment not connected with discharge are not likely to be productive of much good. The offender emerges from his long term in the guard-house with a sense of degradation and the feeling that his self-respect cannot suffer should he go back again. He has been brought into contact with the worst element of the garrison only, and is not at all apt to return to his duty with a chastened spirit or the desire to mend his ways and perform his duty better. The interests of discipline demand that discharge should follow a long imprisonment.

Dishonorable discharge is a very powerful weapon in the hands of courts-martial, and now that evidence of previous convictions is admitted, it can be more generally used to rid the service of undesirable men. By regimental recruiting and through changes recently made in the requirements for recruits, we are getting a far better class of men in the ranks of our army. Still, drawn as they are from many classes, we get hold of some men who, almost from the first, are a source of bad discipline not only by their own offenses, but by the example they set others. They are not worth keeping in the service, for they lower the tone of discipline of the organization to which they belong, and by their acts when off duty bring reproach upon the cloth they wear. Recruiting is active and we can get more men than we need to fill the ranks, and the sooner we get rid of the characters above referred to the better for the service; for they not only form plague spots themselves, but keep out good men that could be enlisted to fill their places.

The little recruiting parties that have been sent out from a number of regiments are doing much to educate the people regarding our Regular army, but the prejudice against it, in the classes from which our soldiers are drawn, while decreasing, still exists. "Enlisted in the army" and "gone to the bad"

are synonymous in many minds, and officers are constantly finding that men in the ranks are going under their "soldier names" because they are ashamed to have their friends know that they are wearing a uniform of which they ought to feel proud.

If the worse class of men who succeed in some way in passing the recruiting officer are speedily returned to civil life when their true character is learned and they have proven themselves incorrigible, the people will soon see that the army is not a reform school, and manly young soldiers returning to their rural homes on furlough or after a first enlistment will not have cause to blush for their comrades or the uniform they wear, and will attract to the service others of the better stamp.

The objections raised are that in discharging such characters we are doing for them that which they most desire. That they want to be free from restraint, and are only deterred by fear of the consequences from severing their connection with the army without getting a discharge, and that others, tired of their bargain, will feel that they have only to misbehave to get their discharge. It is also urged that by following the above course the army dumps into civil life a worthless character that it might have reformed. But what we want is good soldiers, and the army should not be considered as a reformatory for the evil inclined, and if a good sentence of imprisonment or other punishment be coupled with the dishonorable discharge, the satisfaction of the offender at leaving the service will be greatly diminished, and others will avoid that means of re-entering civil life.

When it is possible to keep our ranks filled with good men, there seems little use in hanging on to men who do not make good soldiers, and whose presence in the ranks is a constant detriment to discipline. Give them a fair opportunity to learn the lessons of discipline, and then, if they fail, turn them out for the army is much better off without them.

In conclusion, let officers strive to realize the conditions and importance of the problem themselves, and then make every incident and transaction of military life work to that end. Let them exercise care in the giving of orders, seeing that in each case they are properly understood and obeyed, and avoiding

those that are unnecessary or worrying. Regulate the exchange, minimizing or eliminating the sale of beer or placing it in civilian charge. Stamp out gambling and cultivate the utmost possible *esprit de corps*. Educate non-commissioned officers in all duties that they are likely to be called upon to perform, and separate them as much as possible from their inferiors. Give all possible attention to the preparation of food and the betterment of the soldiers' fare. Give more thorough instruction to all grades in fire discipline and the battle formation, and finally, administer punishment with certainty and in severity proportionate to the offense, but with justice and fairness to all offenders.

WOMEN'S ARMY AND NAVY LEAGUE.

The thirteenth annual report of the Women's Army and Navy League shows the steady growth of that valuable association which now possesses 500 members. The admirable work the association has been doing is too little known. It is deserving of practical encouragement and substantial aid. The non-sectarian conduct of the society and its liberal policy of distributing books, games and organs reflect great credit upon the ladies who have devoted themselves to their task. During the year 571 boxes of books were shipped to foreign points, mostly to Manila. The receipts during the year amounted to \$1256 and the expenditures to \$651. The field work of the League has greatly broadened during the year. At present the funds of the league are unusually low and there are four requests for organs awaiting the action of the society. It should be no difficult matter to furnish the League with the necessary money to continue its commendable work. The president of the League is Mrs. J. C. Kelton and the vice-presidents are Mrs. Sternberg, Mrs. Higginson and Mrs. Townsend. With them are associated prominent army and navy women who have been giving their time and effort to the society and who should not ask in vain for the help that the League deserves.—
Army and Navy Register.

A PLEA FOR UNIFORMITY OF TACTICS.

BY FIRST-LIEUT. O. H. RASK, U. S. M. C.

THE adoption by the Navy Department of the American Magazine Rifle, cal. 30 (commonly called "The Krag-Jorgensen"), appears to have met with general approval, particularly by those who have had opportunity to compare the qualities of that most excellent weapon with those of the "Lee Straight Pull 6 M/M Rifle." Without entering into a discussion of the various points in which the American Magazine Rifle, cal. 30, excels the former navy rifle, the question of uniformity of ammunition was of itself sufficient to ultimately bring about the change. At present the marines in the Philippines, as well as in the larger garrisons at home and on the new battle-ships, *Kearsarge*, *Kentucky* and *Alabama*, are equipped with this new arm, and it is said to be the intention to equip all the new ships with it as fast as they are commissioned, as well as the other ships now in commission as soon as practicable.

The arm, ammunition and equipment for land fighting of the navy and army being identical, as they should be, the question very naturally arises: Why should there be such dissimilarity in the drills prescribed for the effective use of these equipments?

The events of the past two years show very clearly how often the landing forces of the navy and the different troops of the army are called upon to fight side by side. This being the case, what can be gained by such a multiplicity of differences in the drill and movements of these troops? Is it not rather a detriment and cause of confusion and misunderstanding to men and officers alike?

It would be a useless waste of space to note all the points in which there is a variance. A few of the most conspicuous will illustrate the statements made above.

On page 42, paragraph 133, Navy Drill Regulations, the method prescribed for fixing the bayonet is as follows:

"Transfer the piece to the left side and take a position simi-

lar to the order ; grasp the handle of the bayonet with the right hand, back of the hand out, and at the same time press the left forearm against the scabbard in order to steady it ; draw the bayonet from the scabbard and fix it on the barrel, glancing at the muzzle ; resume the order, and drop the left hand by the side."

Unfixing the bayonet is similarly executed, first transferring the piece to the left side.

According to the Army Drill Regulations, authorized by Circular No. 16, A. G. O., dated July 28, 1895, the following method is prescribed for fixing the bayonet :

"Being at order arms : 1. *Fix*, 2. *Bayonet*.

"Execute parade rest ; grasp the handle of the bayonet with the right hand, back of the hand toward the body. Draw the bayonet from the scabbard and fix it on the barrel, glancing at the muzzle ; resume the order, drop the left hand on the side."

Unfixing the bayonet is executed in a reverse manner, first executing *parade rest*.

According to paragraph 153, Navy Drill Regulations, *kneel* is executed as follows :

"(1) Each front-rank man half faces to the right, carrying the right foot so that the toe shall be about ten inches to the rear and ten inches to the left of the left heel ; kneel on right knee, bending the left, left toe slightly inclined to the right, right leg pointing directly to the right ; place left forearm across left thigh, hand hanging naturally ; the piece remains in the position of the order, right hand grasping it above the balance."

"(2) Each rear-rank man takes a side step to the right and then kneels as prescribed for the front rank."

In the army this movement is performed in the following manner (*vide par. 20*) :

"Each front-rank man half faces to the right, carrying the right foot so that the toe shall be about ten inches to the rear and ten inches to the left of the left heel ; kneel on the right knee, bending the left, left toe slightly inclined to the right, right leg pointing directly to the right ; weight of the body resting on the right heel ; place left forearm across left thigh, hand hanging naturally ; the piece remains in the position of

order arms, right hand grasping it above the balance. *This is the position of order kneeling.*

"Each rear-rank man steps off obliquely to the right with the left foot, planting the toe opposite the middle of the interval to the right and in line with the left heel of his front-rank man, at the same time placing the butt of his piece against his left foot, the toe of the butt in line with the toe of the foot; he then kneels as prescribed for the front-rank."

What is the necessity for this difference in performing the movement by the rear rank? The provision in *Load* for gaining the interval to the right by the rear rank, is, in the army and navy alike, by stepping off obliquely to the right with the left foot. What is gained by a difference in kneel? The result of these movements in this particular is identical in both cases.

In the manual of arms there are a number of such small differences, such as calling "*Left Shoulder, Arms*" (Army), "*Slope, Arms*" (Navy), and the like. But there is nothing gained by the changes—the drill is neither simplified nor made clearer of understanding or execution.

In intervals and distances there are marked differences. The army formations of a squad places the tallest man on the right and ranges the men according to height from right to left; there is an interval of six inches between the men; facing distance is sixteen inches and the men march at facing distance in line (except on rough ground and in double time) and with a distance of forty-four inches between ranks in column of fours.

A squad in the navy is formed by placing the tallest men at both flanks, and arranging the men according to height from both flanks to the centre; there is no interval between the men; facing distance is twelve inches and when marching in line the rear rank always falls back to thirty-six inches. In column of fours the distance between ranks is thirty-six inches.

The only reason which can be urged for any of these differences, is in eliminating the six inches intervals between men in the navy as the space for formation in line on board of a ship is usually small and necessitates crowding. There are, of course, arguments for and against intervals between men, but these apply to both services alike, except in the instance cited above. There is also a difference in interval between companies in bat-

talion; the army liberally giving three paces and the navy niggardly only one. But why, the writer does not undertake to say. The ship's argument of the navy for contraction surely cannot be urged, for a battalion in line is not a happy formation on board of a ship.

In extended order there are as many, if not more, variances. The army drill regulations provides for the habitual base of a squad in number two front rank, in front of whom the corporal marches, two paces advanced, in leading the squad. At the halt the corporal is two paces in rear of number two rear rank. In line of skirmishers the corporal is on the left flank and the habitual interval between skirmishers is two paces, and between squads fifteen paces. The deployment of the squad is always made on the base—number two front rank.

In the navy number three, front rank, is the base and the corporal is four paces in advance of his squad when leading, and four paces in rear of number three, rear rank, at halt. One pace is considered the normal interval between skirmishers, and yet the interval is dependent upon the deployment into squads, for if the deployment into squads is at twenty paces, the interval between skirmishers would be two paces, which necessitates the designation of the intervals in the orders for both deploying into squads and line of skirmishers. In line of skirmishers the corporal is on the right of the squad. The squad may also be deployed on number one front rank by giving the command: "1. *As Skirmishers*, 2. *Guide Right*, 3. *March*."

There are many other differences just as absurd, but those given above are sufficient for illustration.

That such differences should exist, is, as has been said, regrettable, for obvious reasons. Tactics of the future will no doubt be greatly influenced by the actual experiences in the Spanish-American War, the operations against the insurgents in the Philippine Islands and the Boer War. It is to be hoped that some method will be adopted to make the drill regulations of the future alike in all the branches of our military service.

THE INVISIBLE FACTOR IN THE PROBLEMS OF WAR.

BY JAMES CHESTER, MAJOR OF ARTILLERY, RETIRED.

SCIENCE, so called, has been advancing by leaps and bounds for over half a century. Perhaps we should not wonder at it. Growth is natural. But it is the rate rather than the fact of growth that is remarkable. The rate is enormous. Can such abnormal growth be healthy? Either something ailed the intellect fifty years ago, or something ails it now. Either it was handicapped and has got rid of its burden, or it was sober and has become drunk. It is certainly under some stimulating influence. It is restless and reckless. It hesitates at nothing; it respects nothing; it fears nothing. It overleaps obstacles without looking behind them; often without success, but never without hope. Failure has no effect on it, or if it has, it is stimulating. It cannot rest however weary, but must keep moving as the treadmill turns. This looks like punishment. What does it really mean? Has the time come for false prophets to arise and show "Great signs and wonders," "Deceiving and being deceived"?

But some will say, teachers of science cannot be called false prophets. They teach the truth. Well, we are not so sure of that. They had the same pretensions fifty years ago, and lied unmercifully—some of them. False prophets are never consciously false. They always believe in the truth of their own teaching. Palpable falsehoods would be poor missionary bait. They would catch no converts. Effective bait must be plausible. Scripture tells us to expect, not palpable, nor even plausible falsehoods, but "Great signs and wonders." They need not be false to fulfill the scriptures; but they must be great. And they are great, and numerous, and plausible enough to be almost convincing. Perhaps they are true. But happy is the man who is able to doubt them. Satan's arguments are always excellent; his demonstrations plausible; his purpose apparently good. And

every man that "walketh in darkness" is bound to believe him. He cannot help it. Reason compels him, and Reason is his only guide. The proposition may be logically proved. He may admit that fact; and if that were the end of it, no great damage might be done. But that is not the end of it, if it is a devil's proposition. There is a corollary behind it, and the corollary is "There is no God," or, if there is, "He is an absentee God, sitting idle at the outside of his universe and seeing it go."

Perhaps it may be because the art of war feeds on all the sciences, but there is no department of human activity in which "Great signs and wonders" are more abundant in these days than the department of war. Prophets and teachers, apparently of the Bobadil breed, are active in every nation. According to them war has become almost an exact science, capable of being cast in a mathematical formula. The factors are Men, Machinery, Organization, Training, Strategy and Tactics. These for contending armies constitute an equation of inequality, and the lightest member must kick the beam. The problems are purely mathematical, and not very difficult. Values are assigned to the several factors according to the judgment of some expert, and the problems solve themselves.

The idea is worthy of Bobadil. For simplicity and easy application it cannot be surpassed. If true, it ought to abolish war. And so it has captivated many of the nations, and they have gone earnestly to work to increase the value of the factors on their side of the equation in order that they may have a sure thing. Many of them believe that a good preponderance will really prevent war, provided the preponderance is on their side; and some, no doubt, merely pretend to believe it. And so they squander their revenues to the very verge of bankruptcy in what they claim to be the cause of peace. And nobody seems to see the absurdity of this devil's paradox. Perhaps the more knowing ones have some glimmering of the truth, and console themselves with the conviction that if a good preponderance does not insure peace, it certainly ought to secure victory—unless Bobadil be a blockhead and his formula false; which, after all, is not impossible.

Of course, the nations know that if war should break out in spite of a preponderance, certain principles will have to be

observed in playing the game. The tricks of the trade will have to be skillfully applied. But with ordinary kriegsspieler care the result cannot be uncertain. Victory will perch on preponderance. This the modern military prophet will prove by facts and figures and familiar examples any day. There may be, he will admit, some historical exceptions; but they are explainable. The formula of success is undisturbed by such exceptions, because it is an embodiment of scientific facts as simple and reliable as the multiplication table. To say that there is an invisible factor in it, which completely controls the result, is an unscientific assumption which no modern military prophet can accept.

But modern military prophets may be blind guides. Any man who has seen panic in an army will be a strong believer in the existence of the invisible factor. Panic arises without apparent cause and spreads like a spiritual plague. It is hypnotic in many of its features. It defies discipline; destroys patriotism; dethrones reason, and utterly upsets the art of war. Assisted by Panic in the adversary's ranks, "One man can chase a thousand, and two can put ten thousand to flight." (Deut. xxxii. 30.) Panic, or its invisible cause, is the mightiest agent on the battle-field. In its presence all formulas go to pieces; all factors reduce to zero, and even courage takes the negative sign. Panic is a mystery. Its victims are actually insane for the time being. It would be a mistake to call them cowards, because they sometimes regain their sanity in time to redeem their reputation and the fortunes of the day. But while they are under the mysterious spell they are demoralized, unmanageable, mad. How can that be accounted for?

Courage is a very peculiar characteristic. It is natural to men, and not at all uncommon. The timidity which prompts some to seek safety in flight when confronted with danger is rather an acquired characteristic, and can be cured. Carlyle, who was a good judge of human nature, contends that any ragged losel can be trained to stand up and be shot at in a creditable and seemingly courageous manner, and Clive's experience with the timid Sepoys proves it. But panic has nothing specially to do with timidity. It strikes the brave man and the timid one with perfect impartiality; but it makes no new

cowards. Let anything, no matter how formidable, interpose between panic-stricken fugitives and what they believe to be safety, and they will fight their way through it like devils. Their courage is perverted, not lost.

The military panics of history would be an interesting study if one could be sure about the data ; but the data are seldom reliable. The panic in the Midianitish army may be taken as typical. (Judges vii.-viii.) We are told that an immense and well-appointed army fled in frantic confusion from 300 men with torches and ram's horns, and that, in their eagerness to escape, they slaughtered one hundred thousand of their own men. Beyond Gideon's 300 men there was no organized pursuit, although a great many may have joined in the chase. It was night, and it is doubtful if the panic-stricken host saw even the 300. Yet they were frantic. Their pursuers were Legion, and there was no getting away from them. They were within them. The Black Horse Cavalry of Bull Run were such pursuers. They existed only in the minds of the panic-stricken fugitives. There were less than a hundred of them all told, and few of the fugitives ever saw one of them, yet they believed, and would have sworn, that many thousands of them were at their heels. And so it was, no doubt, with the Midianites. Panic not only exaggerates, but creates enemies. But what creates panic ?

The true answer to that question cannot be gathered from the reports. The reports about the Bull Run panic try to account for it by natural causes. But these reports were written after the excitement was over. The facts about a panic should be gathered hot. When reason returns they become ridiculous and are suppressed. But while the excitement existed they seemed not only real but rational. So far as the fugitives were concerned they were facts, spiritual, if you please, and perhaps all the more terrible on that account, but facts, distinctly seen and carefully considered. Any of the fugitives would have sworn to them. Yet they were merely phantoms of the mind, as unreal as Macbeth's phantom dagger, and equally powerful. They were manifestations of the power and presence of the Invisible Factor ; more terrible than any material enemies could have been. If Zebah and Zalmunah had lived to write a his-

tory they would have admitted that fact. Victory and defeat in their day were always attributed to the gods. But the modern military prophets have changed all that. They have eliminated the gods from the art of war. Panic is sufficiently explained in their opinion by calling it a fit of cowardice. That anybody should be blind to the significance of such a phenomenon is almost as unaccountable as the phenomenon itself.

Man is, and always has been, a fighting animal. The earliest traces of him on this earth bear witness to that fact, and we are told that the end of time will be ushered in by "wars and rumors of war." So man will be a fighting animal to the end. Yet nature has provided him with a very inferior fighting outfit. No animal is so helpless as he for such a large proportion of its life. And yet the task assigned to him was a fighting task: "To replenish the earth and subdue it." He has accomplished the task. He is king of creation on this earth of ours. Though physically inferior to many of his natural enemies; helpless or nearly so for almost one-fourth of his life; naked and needy from first to last, he stands confessed a conqueror. Surely there was an invisible factor helping him. And we are not prepared to admit that Reason was that factor. Reason was an able assistant in the struggle, but not the originator of it. If consulted in advance Reason would have counselled avoidance of the conflict. The man had no chance against the lion, for instance, both combatants being in a state of nature, and Reason would have told him so without hesitation or equivocation. But there was something stronger than Reason prompting and stimulating the man into action. He might have declined the contest and given his overpowerful adversary a wide berth; but he did not; he would not; he could not. Something within him compelled him to fight, and that something was not Reason. Reason was the faithful servant of that something, but not the counsellor. That something ruled in the man's heart: Reason ruled in his head. The mandate for battle came from the heart. Many unsuccessful battles may have been fought. Faith had, and always will have, a fiery trial. But in the end it overcomes the world. Apparent impossibilities disappear before it. Difficulties become easy; vic-

tories are won. And purblind humanity believes there is nothing supernatural about it.

The modern Bobadil believes that the military art can be learned from books. He might as well assume that the painter's and the poet's arts can be learned in the same way. It is as easy to imitate Shakespeare as it is to imitate Napoleon. Men may become kriegsspielers by studying the masters, automats to issue prescribed orders and punish disobedience, but they can never make themselves commanders of men. They have to be born to it. King David, a royal warrior and commander of men, knew the fountain of his abilities, and so has every hero since his day. Only kriegsspielers believe in book-made generals.

It is no great feat to kill a lion nowadays; but when Nimrod went out against him with a weapon less effective than a kitchen poker, the chances were against Nimrod. But the invisible factor was on his side and he was victorious. Then, and ever since then, that factor has decided every contest that has been fought to a finish. In ancient times the fact was openly acknowledged. Victors thanked their gods for victory. They felt that something sustained their courage during the ordeal, and they believed that that something was their god. Later, their guardian angels or patron saints were believed to be the strengtheners. Indeed in all ages, until very recent times, that mysterious power which sustains the warrior during the battle and gives him victory at the end, was openly acknowledged and reverently thanked; and defeated warriors did penance, never doubting that they had offended in some way. All that may be called superstition; but it was the expression of a fact which every experienced warrior felt to be true. Courage comes and goes in the most mysterious way. Ancient warriors had their explanation of the mystery, and many modern soldiers agree with them; but the Bobadil school deny the existence of any mystery in the matter. That a man has been trained to stand fire, and has done so without flinching a hundred times; and then, without apparent cause, on some particular occasion, stops doing it, means that the man was a coward from first to last according to the Bobadils. We cannot accept that doctrine. Courage, or as it was called in ancient times Virtue, is a patent

of nobility from the Ruler of the Universe. The man who holds it is Nature's nobleman—the Champion of Truth and the Guardian of Order. But Nature's peerage is not hereditary, nor is it always a life peerage. While a man holds it he is a natural commander of men. Defeated he may be—faith must have its trial—but conquered, never, and never deserted by his men. Such men constitute the might of a nation—and Might means Right in the ethics of the universe. Might is a mystery. It is something more than physical force. Physical force, even when skilfully directed could not be multiplied into equality with it. It is the power of a hero; undefinable in human speech, yet unmistakable in human actions. A kriegsspieler can defeat; but it takes a hero to conquer. The hero exercises his mysterious power over the hearts and minds of friends and foes. When he conquers he converts. A defeated enemy remains an enemy; a conquered one becomes a friend.

The power of a hero over the hearts and minds of men manifests itself in many ways. A forlorn hope led by a hero is almost hypnotized. The men are blind to danger. They have no thoughts but those their leader gives them. They would follow him anywhere. They cannot help it. The power of a hero is a spiritual power, and godlike as it ought to be, being God-given. In the midst of panic, the presence of a hero produces calm, and it commands homage even in the heart of an enemy.

The hero, then, is something more than a brave man. He belongs to the highest order of humanity. He is royal. Crowned with Wisdom and Virtue, he is a ruler of men by God's own appointment. And happy is the nation that obeys such a king. But such kings are rare and difficult to discern. Cincinnatus at the plough and Grant in the tanyard were not very conspicuous personages. Yet they wore the crown of Wisdom and the coronet of Virtue although unconscious of the fact. Their regalia were invisible to the unenlightened eye. But he who had the right to call had also the eye to see, and so the crisis met its master. Discernment and loyalty are essential to national well-being. They are lesser lights, perhaps, but they are discoverers and strengtheners. Recognition and obedience are due to the Lord's Anointed. He needs no coronation. The Ruler of the Universe has attended to that.

Wisdom, Virtue, Discernment, and Loyalty are the lights of a nation. While they burn the nation is a favored nation. When they go out the nation is on the road to Gehenna, although it may be, nay, must be, ignorant of the fact. "He that walketh in darkness knoweth not whither he goeth."

The great question for a nation then is, Are your lights burning? Not that the nation can answer it if all its lights are out. A nation in darkness is unconscious of the fact. Only men who are blessed with spiritual eyesight can answer that question; men of discernment; loyal men who can recognize and are ready to follow the man that wears the crown of wisdom. Such men are safe citizens. They are Nature's knights and squires, the lesser lights of the nation. And all these lights, from the royal headlight of Wisdom, which should guide and direct, to the humble rushlight of Loyalty, which should honor and obey, are gifts from the Ruler of the Universe. With the ablest and wisest man—the king—in the seat of authority the lesser lights would soon be put in place. The question "Are your lights burning?" would be asked in every department of the government. Are your lights burning in the army, there? Are they properly arranged? These questions, asked by a Son of the Light and answered honestly and fearlessly, "as unto God and not unto man," would work wonders in any army. Cromwell's army was created in that way. Smoky, sputtering tallow dips, masquerading as headlights, were removed; Shams disappeared; and the brave and capable were called to the front; and so an army was created which has had few equals in history.

But the modern military prophet knows nothing about lights of the spiritual kind. They are unnecessary in his system. The lights he recognizes are scientific. His facts are material and mathematical. If, in the equation of success, all the factors of an army are a maximum, the army is perfect. But perfect to-day means imperfect to-morrow. There are no stopping stations on the treadmill of invention. The best gun to-day may be the second or third best to-morrow. The age is mechanical. Scientific discoveries materialize rapidly, and every new materialization becomes the stepping stone to further advance. We do almost everything by machinery. We even worship in

that way. The *rotatory calabash* differs from the church organ only in degree. No wonder, then, that we should propose to fight our enemies with machinery. The Maxim gun is an embodiment of the spirit of the age. Mantraps may soon be recognized as a legitimate means of frontier defense. They lie directly in the present line of development. Much of the intellectual ability of mankind is now employed in devising means of killing enemies without running any risk. Traps and poisons are only waiting for a sponsor. Horrible! why certainly. Hell ought to be horrible, and that is the end of the present line of development. The more horrible the methods the nearer the goal. But Beelzebub is fruitful in inventions. War by means of machinery, cunning devices, infernal machines, is his argument against the existence of the Invisible Factor. The points he makes are plausible. Indeed they would be difficult to refute in the forum of Reason; and they ought to be successful if there was no God. But there is a God, and he takes an interest in all the battles of men. He never intended that they should fight in that way. When he put faith and virtue into the heart of man, he armed him against all enemies and opposers whomsoever. The devil's devices are very plausible and would be effective if it were not for the Invisible Factor. But against that they cannot prevail. The hero has no use for them. George Washington's condemnation of the torpedo has the true historic ring. "Something always will occur," he said, to render these infernal machines abortive. No nation can be created or saved in that way. The purposes of God cannot be nullified by invention.

"The Tool and the Man" have been on the stage as actors in chief for a hundred years. They have labored earnestly to abolish or ameliorate man's primal curse, and their achievements have been great. Physical drudgery has been transferred from men to machinery in enormous quantities. Yet there is work to do. Men have not been emancipated. They still eat their bread in the sweat of their brows, and millions of them on very scanty rations would be glad to get a chance to sweat. The Tool and the Man have not been our salvation. But they have worked "Great signs and wonders." They have practically abolished Time and Space. They have harnessed

the Lightning in a hundred ways. They have made the wilderness glad and desert places to blossom as the rose. They have brought the wealth of the world within our reach and said, "Let Wealth be your Salvation: you can buy happiness." And not a few have believed them. But the primal curse remains. The Tool and the Man have not lightened it in the least.

The Weapon and the Man are the same actors in another part of the drama. They also promise much. They promise, if not to abolish war altogether, at least to make it wageable economically; that is, without running much risk. They propose to abolish the deadly grapple with an enemy. The shock of battle, so trying to the nerves of the combatants, shall be abolished for evermore. Enemies will be killed as fast as they show their heads above the horizon. Courage will be less essential than keenness of vision. It will be unnecessary to look an enemy in the eye while you thrust him through with a bayonet. This was always unpleasant and even difficult to do. Some men never could acquire the knack of it. But Bobadil proposes to abolish all that. Under his system most of the killing will be done by machinery, and at long range, perhaps beyond the range of distinct vision. That they can conquer as well as kill at long range is never doubted by the new lights. They hold conquer and defeat to be synonymous terms, and would laugh at any one who asserted that defeat merely meant a postponement of the struggle. Still, many men hold that view. They believe that a defeated enemy will have to be defeated again and again until he learns the trick of it, and finally comes out a conqueror.

But some of the more enthusiastic Bobadils may have an idea that arbitration on the basis of their infallible formula may become a possibility. Indeed, if the Invisible Factor has been properly expunged, there ought to be some hope in this direction. Arbitrators would be appointed. Returns of armies "Present for Duty Equipped" would be submitted. Samples of man-killing machinery and evidence of proficiency in marksmanship and marching would be laid before the Board. Then, after mature deliberation, the Board would decide. But only one side would be satisfied. God made man a fighting animal and gave him a courageous heart. He also gave him a fighting

rôle to play, and he will have to play it. There can be no shirking behind arbitration, or infernal machines, or anything else. War cannot be abolished in that way, or in any other; for Scripture says, "Nation will rise against nation, and kingdom against kingdom," until millennium morning dawns. Manifestly there will yet be much fighting among the nations, and as many of them, perhaps a large majority, have no spiritual light, Bobadil's system will have a fine field of operation. But it should avoid all favored nations. The favored nation, with all its lights burning, with the royal headlight in the seat of authority, and nature's noblemen around the throne, can never be conquered by kriegsspielers, whatever their numbers or the nature of their machines. "Something always will occur" to prevent it.

The expectation that war can be abolished by increasing the destructiveness of its machines is another favorite idea among the new lights. They say that the machinery of war has become so deadly that another step or two may make war impossible. But the facts are against the idea. Battles have become less bloody as weapons have become more deadly. How is that to be accounted for? Is it because craftiness has taken the place of courage? Has the devil-like supplanted the god-like on the battle-field? A general survey of the subject almost compels one to believe it. One nation gets a better gun than its neighbor, and forthwith picks a quarrel with him while it has this advantage. Another has a few more battalions of effective troops than its neighbor can command, and embraces the opportunity to jump his claim. Such wars are devilish. They settle nothing. An enemy thus defeated becomes more bitter than before. He bides his time, and when he gets the opportunity there is another war. And so *ad infinitum*. Such nations are devil-taught and devil-guided. Their lights are out.

Light is the life of a nation. The people may be "principally fools," so far as the wisdom of this world is concerned; but if they have the instinct of discernment and loyalty, they are safe citizens, even in a republic. The nation whose feet are thus lighted is a favored nation. But if these humble lights are out, no matter how intellectual and warlike the people may be, the nation is doomed to destruction.

Strategy, or the art of putting an adversary in a position of disadvantage, has but little value unless the battle that ensues can be won. And in that battle the Invisible Factor operates. Panic may appear at any moment, even among veteran troops. But panic is only one of the ways in which the Invisible Factor may operate. The ways of that Factor are infinite and past finding out, and the fact that they are so generally ignored is one of the most striking signs of the times. The art of war is a noble art, and should be studied, and if possible mastered, by every one that aspires to the command of men; but the art of the hero is transcendental, and can neither be studied nor acquired. Yet it is the more important of the two, because it controls the hearts and minds of the soldiers. We get a glimpse of it at Stone River and at Chickamauga, at Salamanca and at Waterloo; and wherever on the pages of history we find examples of heroic resistance by large bodies of men, we feel that there was a hero there who had the power to hold them.

We do not believe in the fatalism of the Mahometan; nor do we believe in that presumptuousness which calls upon the Lord to do our duty for us. If a fanatic walks into the fire merely to give God a chance to save his feet from being burned, he either doubts his own faith and desires a proof of it, or he presumes to make the Almighty a party to his whims. And that is the position in which Satan sought to place Jesus when he quoted Scripture to him on the pinnacle of the Temple. He advocated a presumptuous appeal to the Invisible Factor. He said in effect: Thou knowest that Thou art the Son of God; and that he has given his angels charge concerning Thee. But there is a multitude of men down there that do not believe it. Cast Thyself down, headlong, amongst them then; and when they see Thee alight on the pavement without injury they cannot help believing.

And that is like what the modern Bobadil would say to the nation that believed in the Invisible Factor. Go into battle, he would say, unprepared in every way, and if, contrary to all the teachings of science and experience, you score a victory, the nations will be compelled to adopt your belief. But the enlightened nation makes no presumptuous demands. Its guiding principle is Duty. The defense of the state is a sacred duty

which no enlightened ruler dare neglect. He prepares for it in time of peace with a diligence and zeal unsurpassed by any Bobadil. And such preparation is not inconsistent with the most perfect faith. David went forth to fight Goliath trusting entirely in the Invisible Factor ; but he tried on Saul's armor before he went. True, he rejected it for certain reasons ; but not because he disapproved of armor. And so an enlightened nation, called upon to defend itself, might be forced to go forth in an inferior outfit for certain easily imagined reasons, and yet be a firm believer in the best. If it has done its whole duty to itself, and can appeal to the Invisible Factor without presumption or self-reproach, the preponderance of its adversary will not diminish its confidence. With God-given courage it can at least die nobly. With wisdom and courage it will live.

OLD FORTS.

One by one the old lines of bastioned trace which formerly formed the enceinte of every fortified place, have of late years been gradually disappearing ; condemned as useless in the face of modern artillery, and razed in order that the ground occupied by them may be utilized for other purposes. Among the last to go in England were those round the old town of Portsmouth, so well described in Besant's novel, "By Celia's Arbour" ; but it is now many years since these also were levelled. In France, many of these old fortifications still exist, though since the Franco-German War a large number have been cleared away ; but it is now proposed that nearly all the remaining ones shall be demolished. Among those thus doomed are the lines at Gravelines, near Lorient, La Rochelle, Rochefort, St. Malo, Cette on the Mediterranean, and Vizzarona on the island of Corsica ; the report of the Minister of War, in which the razing of these fortifications is proposed, remarking that they have now become antiquated and useless, and hinder the development of the towns they surround.—*United Service Gazette.*

CONCERNING CAVALRY TRAINING.

BY HENRY T. ALLEN, MAJOR 43D U. S. VOLS., CAPTAIN 6TH U. S. CAVALRY.

WITH the increase of our mounted strength the present is a specially opportune moment to consider carefully our system of cavalry training.

Have we succeeded in making the most of the cavalry horse, considered purely from a military-business point? If this be answered in the affirmative, then I should ask why each troop averages 2-4 bolters, and why annually horses are condemned in almost every troop in the service for viciousness or unmanageableness, and why the period of usefulness of our horses is not greater? I maintain that with due care in purchase and training there should never be a horse condemned for the second causes and there should be few or no bolters.

It is not proposed to go back beyond the purchase, for I will assume that the officers detailed to make the purchase have a considerable supply of that *horse sense* which cannot be learned from books, and that their primary consideration should be to get horses with good, *level* heads. What measure of success is attained I leave to others to judge.

My object in writing this is to call attention to a few glaring defects in our system, to a few things that should be apparent to people less clever than the Yankees. There are exceptions in the cavalry service who are not included among the officers, directly or indirectly responsible for the conditions mentioned below, and who are therefore entitled to all the more consideration; but this list is a small one.

In the first place, recruit horses, after regimental assignment, are turned over immediately to the various troop commanders. In some cases the new horses are assigned, in others they are allowed to be selected by men according to seniority; but in both cases they are sent out to regular drills at a very early stage. All of this is utterly at variance with *horse sense*, for it

is a fact too well known to dilate upon, that the proper training of a horse is a slow process, requiring a great deal of time and practice. *The recruit horse is no more prepared on arrival for soldier work than the recruit man*, and it is equally as stupid to require it of the former as of the latter.

What is the remedy?

Simply establish recruit schools for horses on lines similar to that formerly in existence for cavalry recruits at Ft. Riley (under Captain Folz, U. S. Cavalry), wherein all horses should have relatively as much time given them by experienced horsemen as was there allotted to green men. *Relatively* in this case means that considerable more time is required for horses than for men. All this should be carried out at headquarters of home squadrons, at some regimental headquarters, or at distributing points.

In the second place, our bridling is beyond question the most strikingly defective of any I have ever known adopted by any intelligent horseman, riding institution of repute, or civilized government possessing cavalry. This is a strong charge, but one for which I am willing to accept full responsibility. The time is past when we should close our eyes to these things; it is not just to ourselves, still less to the government we are serving.

To start with, all horses should be trained with two reins, even if the curb or snaffle alone be used subsequently, and all cavalry should at all times on duty be provided with two reins, for the simple reason that only about one horesman in one hundred can properly differentiate the mouth pressure with a single one. This is the result of many years' observation and experience, and this view has been corroborated by numerous horsemen of reputation. I freely confess that I am unable to properly *bit* the average horse with a single rein.

The alleged objection to double reins is the complication of the bridle. There is a little complication, it is true, but one that needs in no way interfere with the proper working of the cavalryman's head or hands. It is not even necessary that the curb rein be always held in the hand, but it should at least be convenient where it can be readily taken up. The normal riding should be done on the snaffle. The curb rein should be so

short that when dropped on the horse's neck it would dangle but little at the sides. Furthermore, all dangling, even while riding on the snaffle alone, can be avoided by merely making a half twist of the curb rein and putting the snaffle rein through the loop. By riding normally on the snaffle, the curb becomes decidedly the more efficacious when used.

It is a well-known fact that the worst bolters are often improved by a mild rubber covered snaffle, and that many horses with hard mouths pull as vigorously on curb bits with long branches as with short branches.

One great desideratum in using two reins is to change the bearing surface in the horse's mouth, thereby preventing the ever increasing pain due to continuous pressure on the same spots. It is obvious that the curb used alone will not accomplish this, and this fact in itself should suggest a change. At this very time a large percentage of our cavalry horses have sore or pinched lips—due to defects of our regulation curb bits—and practically every cavalry officer is cognizant of the fact and the cause. Why, then, should this matter not be taken up and regulated? The width of the curb strap and its relation to those parts of the branches above the bar (the upper sides) is such that a slight pull on the rein will cause the curb strap to pinch both lower lips between it and the bar, and therefore put the horse in pain almost as soon as he is mounted. A partial remedy for this is obtained by shortening the curb to that point where it will barely permit the bit to be put in the horse's mouth. A more effective method would be to attach the leather curb to steel curb-hooks provided for the average first-class curb bit, or by completely discarding the present curb and adopting the regular curb chain found on such bits. All this can be worked out by diagram, but if any one has doubts about his ability to demonstrate it let him get the necessary elements and make the empirical proof.

What bit or bits should be used?

A complete remedy of our present system, then, lies in the adoption of two reins that will bring into existence both curb and snaffle action, and therefore a change of bit bearing in the horse's mouth. In spite of our present methods, our cavalry is in some respects superior to any other; but our bridling bears

about the same relation to modern effective bridling that the Springfield does to the Mauser. Yet there will be found defenders of it just as there are at this late day of the single loader.

Two successful bit systems are in vogue in all up-to-date cavalry (also in polo, steeple-chasing and hunting). Number one involves a bridle with an ordinary curb bit and snaffle, and is probably the more generally used. The snaffle necessitates at least an additional pair of cheek straps. Our present curb bit (with chain curb), our watering bridle and an extra pair of reins, would fairly satisfy the requirements in this case. Number two involves a bridle with a broken curb bit (sometimes called broken Pelham), with two sets of rein rings. With the addition of an extra pair of reins this bit would meet all requirements when used with the leather of our present bridle.

The objections to number one are the increase of leather to the head stall and the additional bit in the horse's mouth. It has been claimed that number two has neither good curb nor good snaffle action. I can positively affirm, as will a number of good horsemen that I can name, that number two has both in a sufficiently high degree for any purposes of equitation, and that it has certain advantages over number one: it prevents horses pulling more on one side of the mouth than the other, and since the branches come slightly together when the curb is used horses cannot catch either branch with their lower lips or teeth. This latter fault can, however, be easily corrected in both bits by the addition of a small strap passing through a ring of the curb and being attached to each branch. A further improvement of number two would be to provide that the bar have a sliding movement on the two branches. For cavalry and all purposes my choice of bits is the broken Pelham.

Cavalry officers know better than any others the annual loss to the Government by our present policy, and it is surely time that they as servers of the country use their utmost endeavors to prolong the service years of the stock intrusted to their care. In my opinion officers responsible for the use of green horses on Regular service, oftentimes ridden by green soldiers, are removed but a small degree from infraction of certain articles of war.

Just as thoroughly as I am convinced of the common sense, business-like necessity of a change, just so thoroughly am I per-

suaded that there will be officers who will contend that well enough ought to be left alone, that our cavalry has always stood high among the cavalries of the world, that troopers ought not to be bothered with two reins, etc.

How arrive at the standard of cavalry training?

This is an important question and one that must be largely dependent upon evolution, but at the same time a rational beginning should be made at once. The practical training of cavalry officers at West Point is entirely inadequate; an officer upon graduation there may be able to ride well, but in most cases he will have but a faint conception of the proper training of horses for first-class cavalry purposes. How, then, are we to determine what shall be the proper training of cavalry horses if the officers themselves are largely incapable of imparting the necessary instruction? My answer is to establish a cavalry school for riding at some central station (Ft. Riley), and require a certain number of officers to attend it annually. Officers passing through West Point learn a certain seat, and some of them continue the rest of their lives to think that this seat is the only one for all kinds of work—whether it be in a charge over difficult country or on the march at a walk, whether in a McClellan or in a hunting saddle.

Besides the advantages occurring to the service by disillusioning and training such officers, this school of equitation would eventually become the cavalry standard. A few officers carefully selected for their horsemanship and horse sense, aided by certain non-commissioned officers selected for similar qualifications, should be sent there as a beginning. Recruit horses should also be sent there for training, and as the student officers arrived they should be put to work under the instructors with the non-commissioned officers, beginning at the lowest rung, and kept at the training of the green mounts until the latter are sent to troops.

With a view to securing refinements and accomplishments of their profession and for the purpose of inculcating daring and activity in their branch of service these student officers should be required to play polo, ride steeple chases, follow hounds, and engage in various kinds of mounted sports—all of which would materially aid them in learning horsemanship in the broadest

sense and therefore make better cavalry officers of them. *From this school as a centre a correct standard of cavalry training and a true understanding of horsemanship would eventually reach all grades of our mounted service.*

The above will provoke sneers from a certain class of officers, nearly all of whom would make a sorry spectacle of themselves if put at difficult riding in company with really good riders. It is safe to say that fifty per cent. of such officers would frequently lose their stirrups, even in a McClellan, in taking a four-foot fence ; and that some of them would in taking the same obstacle in an ordinary pig-skin bite the dirt. I have known a cavalry officer of some reputation to disapprovingly ask what were the advantages in knowing various kinds of riding, saying at the same time that he did not see that it would help him in delivering a charge. Following the same process of reasoning he should have questioned the study of logarithms, calculus and chemistry, to say nothing of subjects bearing still less upon charges and other cavalry work. That any young cavalryman should make such a contention is sufficient proof that the matter merits immediate consideration. If young cavalry officers are content to admit superior horsemanship of any kind on the part of any class of gentlemen and are satisfied solely with ordinary service riding, then the true spirit of horsemanship is wanting, or is so latent that a vigorous incitant is imperative. Can it be that we have reached that stage in our military existence where true horsemanship has ceased to make demands upon the time and earnest consideration of all officers,—especially upon that class whose fundamental creed is based upon it ?

AN ISTHMIAN CANAL FROM A MILITARY POINT OF VIEW.

BY COL. PETER C. HAINS, CORPS OF ENGINEERS, U. S. A.

ASSUMING that an isthmian canal will be built by the United States, the question arises how can it be made to subserve the best interests of the Government from a military point of view. Should it be free to the vessels of all nations on the same terms, in war as well as in peace, or should it be controlled by military power, so that its use by our enemies in time of war could be prevented?

It is not proposed to discuss the cost of putting the canal under military control, nor the ways and means of so doing. It will be assumed that it can be put under military control, or that it can be made free, at the pleasure of the United States.

An isthmian canal cannot be built within much less than ten years. What the relative naval strength of the various powers will be at the end of that period it is impossible to tell. Moreover, it is not easy to assign the proper place to some of the naval powers to-day. One nation may be strong in defensive but relatively weak in offensive power. The number, size, and power of battle-ships and cruisers may not furnish the correct data for assignment of place. Naval training and geographical position are important considerations. The submarine boat is an unknown factor. But judging by the official lists, the principal naval powers have not greatly altered their relative positions in the last ten years. The United States and Japan have forged ahead; Spain and Italy have fallen behind.

The eight strongest naval powers stand about as follows: (1) Great Britain, (2) France, (3) Russia, (4) United States, (5) Germany, (6) Italy, (7) Japan, (8) Spain. Of these, Great Britain and France are decidedly stronger than the United States. Russia, the United States, and Germany are approximately equal, and all others decidedly inferior to the United States.

War may take place between the United States and any of the other named powers, or combinations of two or more, or it

might be with one of those allied to some weak power not in that list. It is impossible to foretell all the combinations that might arise, but it is probable that if an alliance of any two or more powers should make war against us we also would have allies; so that in dealing with the question we shall consider only the cases of war between the United States and a single power.

Let us suppose a war exists between the United States and some nation of inferior naval power. What effect would the existence of the canal have on the operations of either belligerent? The nature of the operations of both would depend largely on the geographical position of that enemy, the more or less maritime character of the people, and the value of her commerce and colonial possessions. Our policy would be to attack her war vessels wherever they could be found, shut them up in harbors by blockade if they could not be reached, bombard naval stations, possibly invade her territory if the conditions favored and the probable results justified it.

Japan, a young and vigorous naval power, occupies a favorable geographical position to operate against us in the Far East, and is fairly well provided with modern cruisers for attacking our commerce in the Pacific. An attack on the Phillipines is within the limits of probability. If successful, Japan might even make a naval demonstration as far eastward as our Pacific coast, but it is difficult to understand how a condition of affairs could arise that would make it desirable for her to send a fleet through an American isthmian canal to the Atlantic side. Such an event could only happen in case our navy in the Pacific were destroyed and that on the Atlantic side perilously weak, a condition which it is safe to assume is not likely to arise in a war with Japan.

As for the European nations that are inferior to us in naval power, none are capable of conducting important naval operations against us on either the Atlantic or Pacific sides of the United States, and none are provided with naval bases of supply in such proximity as to cause us any alarm. Some of them might send out cruisers to prey on our commerce, but they would not be sent through an American isthmian canal to do so.

Of the republics of South and Central America it may be said, first, that they do not possess sufficient naval strength to give us any concern, and, second, that their interests are so closely interwoven with ours that war between any of them and the United States is scarcely probable. But if it should occur, none of them would send their war-ships through an isthmian canal. The greatest danger would be in the canal being damaged by a few men, and this danger would be greater if the canal were fortified than if it were neutral.

It is safe, therefore, to conclude that in a war between the United States and a nation of inferior naval power the canal would be of no value to our enemy, while a neutral canal would be as serviceable to the United States as one thoroughly fortified.

The nations that are approximately equal to the United States in naval strength are Russia, Germany, and Italy. Measured by tonnage, the first of these has a navy of about 25 per cent. larger than that of the United States. But Russia is so situated geographically that operations against us could only be carried on at a disadvantage. She has a position at Vladivostock which is reported as being strongly fortified. It will soon have railroad connection with the capital of the Empire and will become an important base in the East. It lies uncomfortably close to the Philippine Islands, which are far removed from the support of the United States. The harbor of Vladivostock, however, is impaired by climatic conditions. The cold is so intense that the harbor is closed by ice for several months in the year. To reach the Philippine Islands and our commerce in the Pacific the Suez route for Russia is shorter, better, and less liable to interruption than one via an American isthmian canal.

The geographical position of Italy is not good for conducting hostile operations against the United States. In tonnage she is below, but in number of war vessels she is above the United States. She has an immense fleet of torpedo boats, a comparatively small number of fast cruisers, and is far behind the United States in modern-built ships. Some of her battle-ships a few years ago were regarded as the most formidable afloat, as they carried the largest guns in existence. But these

ships are not well adapted to operating at a long distance from a base.

It is difficult to see how Italy could do us much harm on the Atlantic side. A swift cruiser might capture some of our merchant vessels, but that Italy should contemplate sending a fleet through an American isthmiian canal to the Pacific is preposterous. Should she make a naval demonstration in those waters it would be in the extreme western part, most probably in the vicinity of the Philippine Islands, and for this purpose the Suez route is shorter, safer, and in every way better.

Italy is more of a commercial nation than Russia, but her commerce does not amount to much, consisting chiefly of fishing vessels that never go far away from home. She has no important colonies. Those in Eastern Africa are not of sufficient importance to warrant the cost of an expedition for their capture, and their loss to Italy would not have an important influence on the war.

Germany and the United States are more nearly on an equality in naval strength than any other two important naval powers. In tonnage they are nearly equal; in modern-built ships the United States is ahead. Germany has, however, a great number of torpedo boats, and many of her cruisers are what are known as unprotected. The naval programme of Germany would make her the superior of France in fifteen years if the latter remain stationary. In other words, she would become in 1916 the second maritime power of the world, if her programme be carried out and the navies of other nations do not advance.

Germany, however, has no colonies or supply stations on the Atlantic side of the United States in close proximity to our shores. Her nearest colony is in Africa, too far removed to be of much use in a war with the United States, even if it were otherwise advantageous.

On the Pacific side Germany has supply stations, but they are few and far from the shores of the United States; but to attack us on that side, Germany would not use an American isthmiian canal. The Suez route is better and less liable to be interrupted.

In the late war, Spain and the United States were generally

considered to be approximately equal in naval strength, yet an isthmian canal, whether free or fortified, would not have rendered the results more decided nor have hastened the conclusion.

Neither Dewey's victory at Manila nor Sampson's at Santiago could have been made more complete by the existence of a canal; nor could the operations of our armies have been facilitated. The *Oregon* might have reached the scene of operations sooner, but that would not have helped matters, as the sequel proved. If the canal had been in existence and *partially* fortified, it would have been considered a vulnerable point of attack, particularly when Cervera's fleet was on the way across the ocean. A detachment of a part of our fleet to assist in the defense might have become necessary. In that case the blockade of Havana could not, in all probability, have been made effective.

In a war, then, between the United States and any nation of approximately equal naval strength the canal would not be used by our enemy, while a neutral canal would be as useful to the United States as a fortified one.

There are only two nations whose naval strength is decidedly superior to that of the United States; these are France and Great Britain. The total naval tonnage of the former is nearly double that of ours, but much of it is in vessels of an old type. Fort de France, on the island of Martinique, one of the Windward Islands on the east side of the Caribbean Sea, is a commodious, deep-water harbor. In old times it was a strongly fortified place, and is susceptible now of being made impregnable against naval attack. It affords a fine rendezvous for a French fleet within striking distance of the canal.

If the canal were fortified, France, under the laws of war, would have the right to capture, destroy, or blockade it if she could, but naval control of the Caribbean Sea would be necessary for its capture or blockade. Whether or not France would wish to do either, would depend on circumstances. If she did, a struggle would necessarily take place for naval supremacy in the Caribbean Sea. But if the canal were neutral, France, without a violation of the laws of war, could neither blockade, destroy, nor capture it. She would, therefore, have less reason to

strive for supremacy in the Caribbean, and the United States would get the full use of the canal without the necessity of fortifying it.

Would France wish to use the canal in case it were neutral, and she became victorious in a combat on the Caribbean Sea? We think not. Her victorious fleets would undoubtedly have a short route to the Pacific coast, but she would not be likely to send them through it. If an accident happened to the canal while she depended on it as a part of her line of communication, her fleets would be placed in an awkward predicament. Moreover, there is better game on the eastern side more easily reached. On the other hand, if we became the victors in an engagement on the sea, the enemy's fleet would fall back on Martinique, or recross the Atlantic; but it is not probable that a beaten French fleet would try to escape through an isthmian canal westward, even if it were freely open. In operating against the Philippines, France would use the Suez Canal.

Great Britain is by far the most formidable naval power in the world, whether measured by tonnage displacement, by number of ships, by weight of armor, or gun power. Her tonnage at the present time is nearly five times that of the United States, and more than double that of any two nations of the world combined. Her ships are of the latest types, and the personnel of her fleet is in a high state of efficiency.

Great Britain is a commercial nation, and dependent on the outside world for her subsistence. Her foremost object would be to keep open her avenues of trade, destroy everything that could threaten them, and render her adversary incapable of interfering with them. In a war with the United States, her first aggressive operations would doubtless be on the Atlantic side, for which Great Britain is well provided with good bases in close proximity to our shore. Halifax is near our Northern coast. Bermuda is only about 800 miles east from Charleston, while the Bahamas and Kingston are close to the Southern coast. These stations form a cordon around our coast, which would menace the operations of our navy, and from which Great Britain could operate against our coastwise commerce at her leisure.

If the canal were fortified a garrison would be stationed

there. To keep open communications between it and the United States would become a matter of the most vital concern. To destroy those communications would therefore be an object of the highest importance to Great Britain. She could afford to weaken herself temporarily at other points in order to accomplish this, and we would be compelled to concentrate the bulk of our navy in the Caribbean Sea to maintain them. With five battle-ships to our one, and with Kingston, a deep, well fortified, and commodious harbor, as a base of operations, Great Britain would have every chance in her favor.

The Caribbean Sea would thus at first become the chief theatre of war on the Atlantic side, and the canal itself a military outpost, which could only be reënforced by troops conveyed to it by water. Now, a navy to be efficient must have freedom of action. If it be fettered with the task of keeping open this line of communications in the face of a powerful foe, its efficiency would be lowered if not destroyed.

We could not depend on maintaining communication on the west side with our Pacific seaports. The line is too long and too easily broken. That Great Britain might eventually capture the canal is not beyond the range of possibility. The fact that it would be a most valuable prize, and its loss to the United States so detrimental to our interests as well as our prestige, would induce Great Britain to exert her utmost powers. If by any unfortunate circumstance adequate defenses or sufficient troops were not provided prior to the breaking out of war, the capture of the canal might become comparatively easy to a nation in control of the sea on each side.

An isthmian canal, to be of service to the United States, presupposes that passage to it, through it, and from it is assured. But passage to or from it in case of war with a strong naval power could only be maintained by a strong naval force. If the canal bristled with guns from one end to the other it would be of no use to the United States while a powerful hostile fleet dominated the Caribbean Sea. The nation that controls the adjoining seas will in time of war control passage through the canal, no matter which one has possession.

The canal will be located in a region that is practically uninhabited. A few resolute men could disable it with little dan-

ger to themselves. This danger of being temporarily disabled is a serious one even in a war with a weak naval power. The destruction of a lock or embankment, which could be accomplished with a few pounds of dynamite, would bring about a total suspension of navigation for an indefinite period.

Suppose France owned, controlled and managed the Suez Canal; what advantage would she derive from its being fortified in case of a war with Great Britain? Simply that of being able to deny its use to Great Britain—a negative benefit, the value of which is more than doubtful. The canal would become a military outpost impossible to reënforce unless the British Mediterranean fleet could be destroyed or evaded. The concentration of British fleets might be somewhat delayed, but that is all. The mere ability to force delay would not be decisive. Great Britain, in control of the Mediterranean and Red seas, would control the approaches, and, though she could not send her own fleets through it, she could effectually prevent France from reaching it. France would thus be placed in the position of holding a military station of no value to herself, that she could neither abandon without loss of prestige nor make her hold on secure by reënforcements.

The same would hold true with reference to an American isthmian canal in a war between the United States and Great Britain. Perhaps Great Britain could not capture the canal. She might not wish to, but by blockading it she could destroy its usefulness to the United States.

From a military standpoint the canal is valuable only as a shortened line of communication. It has no other value. It does not serve as a good base of operations in a war with a strong naval power. It occupies no threatening position in a war with Great Britain. No prudent naval commander would hold a fleet in Lake Nicaragua or Lake Bohia to spring out on the foe in either ocean, as has sometimes been suggested. If our enemy be weak it would not be necessary; if strong, the danger of being bottled up is too great. The canal is simply a link in the chain of communications. No chain is stronger than its weakest link. Forge it as you will, the weak link in a war with a stronger naval power than ourselves is on either side.

Munitions of war and troops would ordinarily be transported

across the continent by rail, as that is a more expeditious route. As a line of communications it is badly located when considered in a war with a superior naval power. Instead of being in a protected position behind the main line of defense, it is out beyond the skirmish line.

An adequate defense of a fortified isthmian canal can be made in no other way than by providing a navy of sufficient power to control the seas at either terminus. With such a navy at our command the canal needs no fortifications. What number of battle-ships, cruisers, etc., would be necessary to accomplish this end we do not feel competent to estimate; that is a question for naval experts to determine.

Suppose, on the other hand, the canal were neutral. It would not then become a prize of war. Neither the maintenance of an army to protect it nor of a fleet to keep open communications with it would be necessary. Great Britain might possibly send ships through it, but even that is doubtful. The most that could be gained by doing so is a saving of time. Under some circumstances this might be an important matter, but the naval preponderance of Great Britain is such that time would be of less importance to her than to us. It is scarcely probable that it would ever be so important to her as to justify her in taking the risks of sending a fleet through a canal under American control.

The canal is of more value to the United States than to any other nation. To keep it and the approaches open at all times would therefore be the aim of our Government. But no amount of fortifications along the line of the canal would afford safe passage to a ship across the Caribbean Sea.

It is believed, in consideration of the freedom of the canal extended by the United States to the ships of all nations, those nations would agree to an arrangement by which the region of the canal and large areas of the sea at each terminus should be exempted from the operations of war. The larger these areas of neutrality the better. But in view of the benefits to mankind which the United States would confer by the construction of the canal, there ought to be no serious difficulty in securing areas of the sea bounded by arcs of circles described with radii of, say, 100 miles or more.

Should such an agreement be violated by any nation that is a party to it, the United States could destroy the canal, if necessary, so as to render it impossible of being used against us. As no nation except Great Britain would wish to use the canal for other than peaceful purposes of commerce, and as she probably would have no strong reason for using it in any other way, it is not seen why such an agreement might not be made. How such a status of the canal and adjacent waters can be effected are matters for statecraft to settle. The object of the foregoing remarks is to endeavor to show that a neutral canal with a large area of neutral waters at each terminus is, in the existing status of the naval powers of the world, a more useful canal to the United States from a military standpoint than one that is controlled by military power.

AMERICANIZED HAWAII.

The Hawaiians are making progress toward Americanism, but they have not yet solved the puzzle of our national hymn. On March 15 the House of Representatives was in session in Honolulu when Admiral Bickford, the commanding officer of His Britannic Majesty's flagship *Warspite*, and a half dozen of his officers came into the chamber, whereupon the band struck up "God Save the King." The Speaker requested the House to rise, thinking the air was meant for the American national hymn. Representative Beckley, who knew a thing or two about music, kept his seat, and was so frowned upon by his unmusical colleagues that in indignation he said he would introduce a resolution prohibiting the band from playing within a mile of the capitol. The incident, it is needless to say, greatly amused the English officers. Perhaps Speaker Akina is like General Grant, who said that he knew only two tunes—one was "Yankee Doodle," and the other wasn't.—*Army and Navy Journal*.

Translations and Reprints.

THE UNIVERSITIES AND THE ARMY.

BY CAPTAIN A. K. SLESSOR, DERBYSHIRE REGIMENT, ADJUTANT
OXFORD UNIVERSITY VOLUNTEERS.

(From the United Service Magazine.)

"**A**S to Military Education," wrote the Duke of Wellington, "I am persuaded that the best education for an officer is whatever may be considered the fittest education for a gentleman, whether in England or elsewhere. Let that be the foundation,* and it is easy to add such technical science as may be necessary for an officer."

When the duke wrote these words he gave expression to an opinion which, had he lived in the present day, he might possibly have seen reason to modify somewhat, so far as regards the latter part of the sentence, but which nevertheless deserves perhaps a far greater measure of consideration than it commonly receives from those who are now responsible for the training of our future officers. The army has long ceased to be regarded as the profession for the fool of the family. On the contrary, an exaggerated estimate has begun to prevail of the extent of brain-power required to enable candidates to obtain commissions. But while the general standard of ability in the commissioned ranks is undoubtedly a high one, it is scarcely open to question that in point of education the average officer does not compare favorably with the majority of men in other professions recruited from the same sources.

Life in a regimental mess is certainly not conducive to much

* The education of a gentleman in the days of Wellington meant chiefly the power to introduce apt quotations from Horace, to be pleasant without being familiar, and to be rude without being vulgar. Education fails in all three respects in the present day, and in the case of the two latter, at all events, this is regrettable.—ED. U. S. M.

reading. The whole of an officer's morning, and frequently a considerable part of the afternoon, is occupied by his professional duties. Games, amusements, exercise in one form or another, or social duties fill up his time until the evening, and then comes that wearisome and needlessly costly fetish, which perhaps one or two seniors appreciate, but which the majority often abominate, the mess dinner. After it billiards, a rubber, or the evening papers, and then to bed. Some few endowed with a natural taste for reading too strong to be eradicated find or make opportunities to indulge it, and the periodical recurrence of promotion examinations enforces on all alike spasmodic cramming of dry minutiae of military law, mathematical formulæ used in surveying, dimensions of field fortification and similar details, a knowledge of which appears to be regarded as the test of an officer's efficiency. But in many cases the newspapers and magazines to be found on the ante-room table supply practically the only form of literature habitually studied. Nor is it matter for any great wonder, considering the conditions of the officer's life and the almost exclusively practical nature of his occupations. In the preface to a certain well-known military handbook it is very truly observed that "the dead uniformity of military official work, and of the barrack yard, during periods of prolonged peace, is probably more deadening to the human intellect than any form of employment hitherto discovered." Unhappily for the soldier, periods of prolonged peace are the rule, and it is only exceptionally that he enjoys the blessed opportunity of clearing out the cobwebs by the aid of a little active service. Otherwise he runs perpetual risk of having his mind stereotyped into narrow grooves from which escape is difficult. Originality goes, and with it initiative. Readiness of resource, swift grasp of the situation, qualities invaluable to the soldier, are impossible to an intellect dulled and blunted by the long monotony of running in one cast-iron mould. How then to avoid such a calamity? Simply by expanding and broadening the mind to such an extent from the beginning that it becomes absolutely incapable of narrowing down again. In other words, teach the young officer how to use his brains, develop his intelligence, and widen his faculties by giving him a more extensive general education at the outset of his career.

It is greatly to be feared that in a large number of cases education proper ends with the officer just at the age when it ought to begin, namely, when he leaves school, or has mustered sufficient knowledge of general subjects to pass into Sandhurst or Woolwich. Thereafter any time he gives to study at all is devoted exclusively to purely technical branches, tactics, fortification, topography and the like; and even these are read very often not so much for their intrinsic interest as with the object of eventually defeating examiners. This, after all, is perfectly natural. The newly joined subaltern, delighted at having steered successfully through the shoals of examinations to the safe haven of a commission, casts aside his books with a sense of relief, and gives himself up to the enjoyment of the many new experiences that surround him. He has probably never acquired any taste for reading for its own sake, and, moreover, is usually kept so hard at work for some months learning his drills and duties that the use of any of his leisure hours for anything but amusements of one sort or another is the very last thing that occurs to him. The result is that from the standpoint of general literary acquirements he remains at the same level from which he started on leaving school.

One of the many ignorant reproaches levelled against the War Office is that, of the many subjects which candidates for admission to the Royal Military College at Sandhurst may offer to be examined in, not one is of a distinctively military character. As many marks may be obtained for Latin or Greek as for any other subject, with the exception of mathematics. By the mercy of Heaven there is still left, even unto this nation of shopkeepers, a remnant of those who hold that some knowledge of polite literature, *literæ humaniores*, is a useful ingredient in the education of a gentleman; and a recognition of the fact that a classical education is as sound a qualification for a commission in the army as any other, should surely be accounted unto the War Office for righteousness rather than for a reproach. It is perhaps on this principle that a limited—a very limited—number of commissions is offered annually to University candidates.

The conditions governing the appointment of members of the universities to commissions have undergone considerable alterations in the last forty years. In the early sixties gradu-

ates were gazetted direct to their regiments on obtaining degrees. When the supply began to outgrow the demand, the commissions available were awarded on the results of competition among the candidates at the examination for admission to Sandhurst, and the successful candidates entered the Royal Military College, and went through the same course there as the ordinary cadets. This system continued up to the end of the last decade, when it was considered no longer desirable that University candidates should pass through Sandhurst, a decision which the increasing demands upon the accommodation at the Royal Military College made perhaps inevitable, yet which in many respects is to be regretted.* The regulations under which commissions in the army may now be obtained by University candidates are set forth in a pamphlet published by the War Office, of which the latest revised edition was issued with Army Orders, dated 1st August, 1899. War Office publications are not always remarkable for lucidity, and the pamphlet in question is calculated to reduce the anxious parent or guardian, especially if he be a civilian, to a condition of utter bewilderment and despair. A perusal of the first paragraph would naturally lead him to imagine that his boy had only to pass the necessary University examinations in order to obtain a commission without further ado. At first sight it seems perfectly plain sailing. The opening sentence states that "Commissions in the Cavalry and Infantry of the line may be granted to any one who has passed the examination for the degree of B. A.," or even the half-way examination officially described at Oxford as the "First Public Examination," and commonly known as "Moderations." Any soldier, familiar with the way in which the plainest of regulations is constantly annulled by a mass of subsequent restrictions and saving clauses, would at once distrust this simple statement, and look behind it for something more than met the eye. But the unwary civilian might read on in fancied security until his suspicions were first faintly aroused by a remark in the second paragraph, to the effect that :

* Yes, very much to be regretted. Every recruit officer for the cavalry and infantry should go to Sandhurst, and the college system should be so reformed that the course of instruction should result in making soldiers of those who are fit for the army and relegating to civil life those who are not.—ED. U. S. M.

"In case there should be more candidates than vacancies, the required number will be selected by competition at the ensuing examination for entrance to the Royal Military College." In case! The irony of it! Then come strings of conditions to be fulfilled, confused talk of sundry literary, medical, and military examinations, and finally as a last straw is thrown in a paragraph at the end stating that: "In addition to qualifying in the above * * * candidates must, unless they already hold commissions in the militia or volunteer force, be appointed as supernumerary officers to one or other of these services for the purpose of learning their drill. They must also attend a school of instruction and obtain the certificate of proficiency." How to set about complying with these last conditions alone constitutes a problem extremely puzzling to many a candidate, and entails much further inquiry, expense and difficulty.

It may therefore be of some use to attempt briefly to explain the various steps a University candidate must take to obtain his commission. The physical qualifications need not be discussed in detail here, as they are the same as for ordinary candidates. It is enough to state that a height of sixty-four inches, chest girth of thirty-three inches and weight (stripped) of one hundred and twenty pounds are the minima required at the lowest admissible age, *i. e.*, sixteen last birthday, and that the scale rises slightly according to age. Candidates twenty-two years old need a height of sixty-five, and chest girth of thirty-four inches, and must weigh one hundred and forty pounds. Defective eyesight or hearing, bad teeth, or color-blindness also disqualify. Candidates cannot be medically inspected until after they have successfully competed for one of the vacancies at the "literary" examination, but those who have any misgivings as to their physical fitness can undergo a preliminary examination by a military medical board before beginning their course of study, and so ascertain whether the probability of their passing the final physical tests is sufficiently strong to render the attempt worth making. Applications to attend such a board must be addressed to the Under-Secretary of State for War, accompanied by a fee of two guineas.

The University qualifications are simple enough. The Candidate must have resided for a year at his University, and have

passed Moderations at Oxford, or its equivalent at Cambridge or elsewhere. If he has passed for a degree he is allowed to compete a year later. In the latter case he must be under twenty-three years of age, in the former under twenty-two.

These age limits apply, not to the period within which he must obtain a commission, but to the date on which he competes at the "literary" examination. This "literary" examination is the crux of the whole matter. It is the only one of the many that have to be undergone which is competitive. Once through it the candidate is known as a "successful candidate," and provided he can pass his medical inspection his commission is practically assured. Any other examination he has to pass is merely a question of qualifying, that is of making a certain percentage of marks, not of making more marks than rival candidates; and any youth possessed of the very limited amount of brains required to pass Moderations should have no difficulty in attaining this qualifying standard. The "literary" examination is nothing more or less than the Sandhurst entrance examination, which takes place twice a year, every June and November. University candidates are examined for their "literary" at the same time and on precisely the same papers as candidates for cadetships at Sandhurst. Some slight knowledge of mathematics is necessary, but practically any subject can be taken up that boys are taught at school or college. A certain number of vacancies are offered at each examination to University candidates, and those amongst them who take highest marks at this examination obtain these vacancies and become "successful candidates."

So far the procedure is identical with that which was in vogue in days when the University candidate entered Sandhurst. Now that "successful candidates" no longer pass through the Royal Military College other means have had to be devised by which they can receive the same instruction, in drill and military subjects, which formerly was given to them at that excellent institution, before joining their regiments. Whereas formerly they were thoroughly well grounded in such matters at Sandhurst, and in addition acquired habits of punctuality and discipline which are often but imperfectly enforced at the Universities, they are now left to pick them up how and where

they may. Before they can be gazetted to commissions they must acquire some knowledge of certain professional subjects, namely, military engineering, military history, and military topography. The War Office disclaims all responsibility for imparting instruction in these matters and confines its share in the proceeding to examining their "successful candidates," when by the aid of crammers or private coaches they have learnt them for themselves. This is called the "military examination," and is the same as the examination held every March and September for militia candidates for army commissions. Four thousand marks are allotted for military history, and two thousand each for engineering and topography, and the successful candidate must obtain at least one-third of the aggregate in order to qualify. Two trials are allowed for the "military examination," as well as for the "literary" one. Finally, a certain amount of drill has to be learnt, which is tested by the ability to obtain the "Proficiency Certificate" required of volunteer officers before promotion. This is one of the most needlessly complicated proceedings of the whole lengthy series. In order to learn their drills the unfortunate University "successful candidates" are compelled to purchase uniforms, which will probably be quite useless to them later, and to join militia or volunteer regiments as supernumerary officers, where nobody can take a very great interest in them, and where they are an untold nuisance to the adjutant. When they have acquired an elementary knowledge of drill sufficient to enable the adjutant to sign a certificate to that effect without perjuring himself, they are sent on to a school of instruction, usually at Chelsea barracks, where they go through a month's course of drill, and at the end of it are examined for the "Proficiency Certificate." If the candidate succeeds in this examination, he is at last fully qualified for a commission, and may be gazetted to one as soon as a vacancy occurs in the regiment he wishes to join, which may not be for another six months or more. When eventually he does join his regiment, he will be lucky if he does not find half a dozen men or more senior to him, who are two or three years his juniors in age.*

* This is a minor misfortune. The real trouble is that some 25 years later he will be compulsorily retired on reaching the age of 48 years without having

To recapitulate, the University candidate, before he can reach his commission, must fulfill the following conditions.

- (1) He must reside a year at the University.
- (2) He must pass "Moderations."
- (3) He must then become a "successful candidate" at the competitive "literary examination."
- (4) He must satisfy the doctors at medical inspection.
- (5) He must pass the "military examination."
- (6) He must be appointed to a commission in the militia or volunteers.
- (7) He must obtain a "Proficiency Certificate."

And at the end of it all he finds himself at a great disadvantage with his fellows in point of age, whilst in nine cases out of ten he has never really enjoyed any of the advantages of a University education. A single year at Oxford or Cambridge, which is as long as the majority of University candidates spend there, can certainly not be said to constitute a University education. The undergraduate during his first year's residence, is in general apt to be a mere schoolboy let loose, a creature irrepressibly foolish, almost irresponsible; withal a wholesome English gentleman. After his first year he begins, as it were, to take notice and undergo the process of transformation to a rational and responsible being. The second year teaches him twice as much as the first, and a third more than the first two together. It is at least open to question whether the single year which is all that the bulk of University candidates now spend at Oxford or Cambridge benefits them sufficiently to compensate for the delay it causes in the date of obtaining commissions.

Undoubtedly the present system leaves much to be desired. Its main drawbacks are, firstly, that the University candidates in most cases have not had a University education, which is the presumable object of the whole thing; secondly, that they do not get their commissions until two or three years later than their contemporaries at school who have entered the army through Sandhurst, whereby their prospects of rising in

become a lieutenant-colonel—and quite right too. We want young officers, not valetudinarians handicapped, if not by gout, at all events by "Anno Domini."—ED. U. S. M.

their profession are very seriously compromised. A consideration of the several conditions enumerated above may suggest some means of remedying the more obvious defects. The solution now to be offered involves somewhat drastic changes, but none that present any insuperable difficulty. Briefly, it is this. Let the first four conditions stand and the procedure remain as it is at present, up to the completion of the competitive literary examination, or rather of the medical inspection. After that wipe out the remaining conditions, and instead,

(1) Gazette the successful candidate at once to a probationary commission.

(2) Let him remain at the University and take up the subjects of the military examination as part of his examination for a degree.

(3) Postpone all compulsory learning of drill until the probationer has joined his regiment.

Only the broad outlines of the scheme can be indicated here; the details could be furnished without great difficulty if the general principle were approved. With regard, however, to the first point, it may be observed that an exact parallel is to be found in the method of appointment to first commissions in the Royal Marine Artillery. The vacancies available every year in that corps are competed for at the examination for entrance into the Royal Military Academy at Woolwich. The successful candidates are then at once appointed probationary second lieutenants, and reckon their commissioned service from the date of such appointment, although two years of probation passed in study at the Royal Naval College at Greenwich must elapse before they join their corps for duty. It is of course true that, in their case, as all enter the corps in the same way, none of the difficulties arise which might occur in the case of probationary officers from the Universities being gazetted to regiments with two years' service. They would necessarily take rank regimentally from the date of appointment to their regiments, whilst reckoning their army service from that of their first probationary appointment. But the fairly numerous instances already existing of officers holding army rank senior to or higher than their regimental rank, by reason of brevets, exchanges, transfers or otherwise, are not found to occasion any extraor-

dinary inconvenience, whilst officers who join the Indian Staff Corps from the line can do so with periods of army service to their credit of anything between six months and six years.*

The second point of the proposed scheme, that of allowing the three subjects of the present "military examination," viz., military history, engineering, and topography to be taken up as part of the examination for a degree, rests to a large extent with the University authorities. There are excellent grounds for the statement that they would be perfectly willing to consider favorably the formation of a school in such subjects, especially if no additional demands were thereby entailed on the University chest†. The Universities could hardly be expected to provide either lecturers or examiners, but the question of examination might be settled by appointing dates for the military "schools" at the Universities simultaneous with the militia examinations in June and September, which University candidates now attend for their "military examination," and using the same papers. In this case the share of the Universities would be confined merely to "invigilating," or taking the part of the board of officers who conduct promotion examinations.

If desired it might be arranged that candidates should go up for an honor degree in military subjects, instead of taking the humble pass, those who take honors being subsequently given preference in choice of regiments.

With regard to instruction in the subjects of this examination, University candidates would be in a no worse position than

* Since the above was written a new Regulation has been published, under Army Orders of the 17th September, 1900, in accordance with which "gentlemen cadets" on leaving Sandhurst "will be gazetted as second lieutenants supernumerary to the establishment pending appointment to regiments," with a view to performing a musketry course at Hythe before joining. One obvious result of this Regulation will be that the army rank of nearly all subalterns will date from a period slightly earlier than their regimental rank.

† The Vice-Chancellor of Oxford University, whilst of opinion that there are already too many separate "schools" at Oxford, considers nevertheless that the reasons in favor of establishing a new military school perhaps outweigh those against it. He suggests that "possibly some arrangement might be made with the War Office that they should subsidize a staff of University lecturers (paid partly out of this subsidy and partly by fees from the men attending their lectures, or by the colleges on their behalf), as the India Office now does in the case of the Indian Civil Service Probationers."—AUTHOR.

they are at present, if no steps in this direction were taken at all, and the instruction were left to private enterprise. But if any such scheme as that here suggested were to be adopted,—and the large number of direct commissions, some two hundred odd, placed at the disposal of the Universities in the first six months of the past year, coupled with the unusually large number of vacancies offered to University candidates last November, rather point to a growing tendency to develop the use of the Universities as a recruiting-ground for officers—there seems no reason why a regular course of lectures should not be officially established for those undergraduates who propose taking their degrees in the school of military subjects. Now, although the Universities would probably experience little difficulty in providing their own lecturers in military history, it is highly improbable that any of the ordinary University tutors could be found qualified to instruct in such purely technical subjects as military engineering or topography. This would necessarily require a military expert to be appointed by the War Office, preferably out of the fairly considerable number of officers who have had the benefit of a University career. Some such official would be almost a necessity if the Universities became anything like recruiting centres for officers. He would act as military adviser to the University authorities, and as University adviser to the War Office. There are probably few towns in the United Kingdom so wholly unmilitary in character as Oxford and Cambridge. To the vast majority of “Dons” anything connected with military procedure is an absolutely sealed book, whilst it can hardly be said that the ignorance of University methods prevailing amongst most War Office officials is any less profound. During the first half of the past year, the War Office presented to Oxford University, and presumably also to Cambridge, no less than ninety-four nominations for commissions. These were sent to the respective Vice-Chancellors to be disposed of absolutely as they pleased, with the exception of one or two obvious limitations as to age, and so forth. It would, perhaps, be only natural to suppose that so important an official as the executive head of a large university would be provided with some sort of office and a clerical staff at least as large as that of a regimental orderly room; whereas the fact is that a

Vice-Chancellor has no office but his own private study, and has to provide himself with a secretary if he has one at all. The normal duties of his appointment involve a considerable tax on a Vice-Chancellor's time and energies, and when in addition to that the War Office suddenly appoint him unpaid recruiting officer and let loose seventy-three commissions upon him for distribution in one fell swoop, as they did in March last, the task is beyond the powers of the most conscientious and pains-taking Vice-Chancellor to fulfill efficiently. Crowds of hungry applicants besiege his door, many of them quite unsuited for commissions, and every post pours in a mass of letters from heads of colleges, urging the claims of their own men, or fond parents extolling the merits of their own sons. The selection from so large a number cannot but be to a certain extent haphazard under the circumstances. If the War Office had a staff officer of their own, resident at the University, he would be available to relieve an already overworked official of the burden of such extra duties as these.

In certain districts in India which include hill stations the D.A.A.G.'s for instruction are stationed in the hills, and hold garrison classes, for the benefit of officers about to be examined for promotion, of six weeks or two months' duration, at stated periods in the year, usually during the hot weather months. Could not similar garrison classes be held at Oxford or Cambridge in each term for the instruction of successful University candidates? The Home and Eastern Districts, within which Oxford and Cambridge respectively lie, each have a D.A.A.G. for instruction, and it has not been found in India that there is any special necessity for a D.A.A.G. for instruction to be stationed at the head-quarters of the district command.

There remains the third point in the scheme outlined above, and that concerns the question of drill. At present the University candidate has to number a Proficiency Certificate among his many qualifications for a commission. This, as has been seen, is obtained by attending a school of instruction class, that is, the candidate goes every day for a month to Chelsea barracks or elsewhere, and performs so many hours' drill, and at the end of it undergoes an examination. If he passes it, he is given a Proficiency Certificate. Because these classes are composed ex-

clusively of officers, chiefly of the volunteer forces, he must also obtain a commission before he can join one, either in the militia or volunteers. There is no other reason whatever why he should be put to this expense, and nothing in the present system seems so obviously to call for amendment. He might just as well attend his school with the status of simply a University cadet, clad in a blue serge patrol and trousers, which would only require new buttons to suit any regiment he joined subsequently. Objections have been raised to this course on the ground that such cadets would not be subject to military law and therefore could not be punished by the Commandant of the school if they were naughty. Such objectors show little knowledge of the undergraduate. He could be dismissed from the school for misbehavior, whether subject to military law or not, and if he were disposed to misconduct himself (which he never is at these schools), he would at least possess sufficient common sense to avoid incurring the risk of dismissal. However, if the University cadet is seriously regarded as a menace to the interests of discipline at a school of instruction, the difficulty is easily solved by insisting upon his being first enrolled as a full private in a University Volunteer Corps. He would thereby become amenable to the Army Act whilst under instruction at his school. Or if the system of Probationary commissions suggested above were adopted no difficulty would arise at all.

A simpler method still would be to abolish all necessity to learn any drill until he joins his regiment. A Proficiency Certificate is no doubt an excellent thing as far as it goes, and most valuable to volunteer officers, for whose benefit it was originally ordained; but after all it does not extend beyond the barrack yard, and argues a knowledge of no more than mere matters of actual drill, which are only the A.B.C. of soldiering. Moreover all young officers on joining their regiments, whether they come from Sandhurst, the militia, or the Universities, are treated at first exactly as if they had everything to learn from the beginning, and are placed on the barrack square in a squad of ordinary recruits, to learn to "stand at ease by numbers," to "right turn," and all the other details dear to the heart of the drill-sergeant. The Proficiency Certificate may help them to

escape a few weeks earlier from this ordeal, but that is practically all it amounts to. With or without a certificate the University candidate must inevitably spend weeks or months on the parade-ground before he is dismissed his recruits' drills.

In this connection especially it is useful to bear in mind the Duke of Wellington's dictum. Whatever may be the demerits of the English University system, its bitterest detractors will hardly profess to point out a better education for a gentleman, whether in England or elsewhere, or consequently, if the Duke may be believed, a better education for an officer. Let that be the foundation. Encourage the University candidate to remain on at his University and get the full benefit of it, for it is easy to add such technical science, or at least such knowledge of drill, as may be necessary for an officer when he has become one.

TRANSPORT SERVICE.

The Secretary of War is, very judiciously we think, endeavoring to abolish the transport service between the United States and the ports of Cuba and Porto Rico. There is hardly enough freight carried at the present time to justify a continuance of the heavy expense of the fleet used for the purpose. Bids for the transportation of officers, men, animals and stores have been called for from the private lines running between those ports, and it is presumed that it will not be long before the change is made.

EXPERIENCES WITH A HORSE TRANSPORT FROM INDIA TO CHINA.

BY CAPTAIN B. VINCENT, R. F. A.

(From the Proceedings of the Royal Artillery Institution.)

SO many people have had experience lately in transporting horses by sea, and such a number of reports have been written on the subject that I feel rather diffident in taking up my pen to touch on the matter.

However, as we have all still much to learn on the subject, and as on this particularly lengthy voyage of 38 days we not only experienced extreme heat, but also met with one of those violent cyclonic storms peculiar to the Chinese seas, a short account of the journey may be of general interest.

In August, 1900, the home government wired out to India for 198 battery horses 15-1 hands and under for the Vickers-Maxim guns, which, together with personnel, were being despatched to China from England.

I got orders to go in charge, and to collect the horses at Calcutta, which place I reached on August 21st.

For the next week horses kept arriving in small numbers from all parts of India, but the majority came on the 28th, by which date all should have arrived.

Almost every field battery in India was represented, some came from Peshawur, others from Karachi and Bangalore. Many had been a week in the train and showed undoubted signs of it.

There was no proper accommodation for them in Calcutta, but we managed to make them fairly comfortable in the transport lines, though they all had to stand in the open, and it rained nearly the whole time.

Taken all round, they were a nice, even looking lot of horses, of the chunky serviceable description, and with the exception of a few cases of skin disease were in good condition.

There were still three days before the date fixed for embarkation, so I put them all on bran and had them shod up all round.

My establishment consisted of four British N. C. O.'s, 1

farrier, 1 shoeing-smith, 120 syces, 3 sweepers and 2 bhistis. The syces were quite the most wretched looking collection of their class I had ever seen, and subsequently proved themselves to be no better than they looked.

On September 1st, at 5 A. M., we commenced to embark on the hired transport *Ashruf*, 2100 tons register. The horses had all to be walked down a steep ramp leading from the main deck to the "between decks." Every one seemed to be in a great hurry to get the ship off, on account of the tide, and many of the horses objected strongly to going down the ramp, so I was not enabled to arrange them as I should like to have done below, *i. e.*, to put the fattest horses in the best ventilated parts, etc.

By 8 A. M. everything was ready and we left the docks, but did not get clear of the Hooghly till 2 P. M. next day.

It was a very hot night on the river and the horses perspired a great deal. They spent most of the night biting one another, and three or four were badly savaged all over the head and neck. Next day, as no head-chains were provided, we improvised them by doubling the head-rope, attaching the centre by a clove hitch to the head collar and then fixing the ends to rings on each side. This allowed the horse freedom enough to reach his feed tin and to nibble his grass, but prevented him from molesting his neighbors.

On the night of the 2d, as soon as we were well clear of the river, it became a bit rough, far too much so for the wretched syces, who lay about like inanimate logs, and were utterly incapable of exerting themselves. No amount of persuasion would stir them, and they remained practically useless for two days.

It is a big undertaking for half a dozen men to water and feed 200 horses on board-ship in rough weather, but it had to be done, and was done effectively.

On the 4th the sea became smooth and the syces returned to life. We rigged up as many wind-sails as possible, but even with a nice breeze on our quarter it was very hot below. A few round portholes on each side were the only exit for the foul air.

On the morning of the 8th we reached Singapore and went alongside to coal. As soon as the ship stopped the heat was

terrible between decks. We moved 20 horses into the syces' quarters, which gave a little more air space, but I told the captain that we must go on with what coal we could take in by 5 P. M. The horses could not have endured a night alongside the wharf in Singapore.

At 5 P. M. we started, but were unfortunate in having a following wind from then until we reached Hong Kong on the 13th.

The wind, which was steady from the southward, seemed to conform its strength to our pace, so that the wind-sails flapped aimlessly, and not a breath got down to renew the exhausted air on the horse deck. Neither was it strong enough to make it worth while to turn the ship round and go in the wrong direction. Added to this, the heat even on deck was intense, and on the horse deck near the engine room was generally about 105° to 110°.

The vessel was an old P. and O. passenger boat, and had no square cargo ports, but only the above mentioned small round ones, and those few in number. There were two square hatches in the deck, one forward and one aft, but little or no exit for the foul air to escape.

What made matters worse was that drainage there was practically none. Every particle of refuse had to be ladled out through the small portholes, or taken on deck and thrown overboard, and, owing to having to bale the water out again, it was impossible to sluice the deck down with a hose.

The footboards of the stalls lay flat on the deck, a condition most unsanitary, the wood becoming soaked with decomposing fluid. My men and I suffered from headaches due to the hot, moist atmosphere, impregnated as it was with ammoniacal and carbonic acid gases.

During the night of the 10th I awoke at 2 A. M., went below and found the atmosphere so pestilential that I woke up the captain and insisted on slinging as many horses as possible on to the upper deck.

They could not live below and many were drooping their heads from exhaustion.

We got the gear ready at once and by 10 A. M. had 50 horses on deck and carried them thus for two days to Hong Kong.

Of course, it was an extremely risky proceeding, as if a squall had come or any motion they would have been shot all over the deck. Luckily the sea remained smooth and the ship absolutely steady, and I feel certain that many of their lives were saved.

The ship as we entered Hong Kong harbor presented an odd appearance. Every square foot of the deck was covered with horses, bullocks, sheep, goats and natives in the greatest confusion.

The horses, though picketed closely in the ordinary way with head and heel ropes, were so exhausted that they remained quiet and never attempted to kick and bite.

Unfortunately five had died, and post-mortem examinations showed in all cases lungs badly congested from want of fresh air.

We remained at Hong Kong till the next morning and spent the night taking in coal and water. I hired 50 Chinese coolies and made an attempt to clean the horse deck, also 12 carpenters to cut a hole 8' by 6' in the after part of the deck as an exit for foul air.

It is impossible to describe the pandemonium on board that night. The coolies expended far more energy in laughing and shouting than in doing their work, so that we found it difficult to get the job done.

We had the satisfaction of hearing at Hong Kong that we had just missed a severe typhoon. The transport *Nuddea*, with the Burmah battalion on board, had arrived the day before us having been terribly knocked about. She had lost her foremast and all her deck gear. Five horses out of six and twenty-three mules had been killed. She certainly looked a pitiful object.

Our instructions now were to proceed to Wei-hai-Wei for orders, so we steamed out of Hong Kong's beautiful harbor on September 14th. All the horses had been put below again, but as there was a good breeze against us, the ventilation was sufficient. The new hole too in the after deck made a great difference.

Two more horses died from pneumonia and oddly enough in nearly every case of this disease they had fed well up to the last moment.

On the evening of the 15th, when steaming along some ten miles from the coast of China, we encountered a heavy swell from the northeast, though the wind was from the west. This, added to the fact that the numerous junks we met were all beating towards the land, convinced the captain that we might expect bad weather before long. Every preparation was therefore made for a storm, awnings taken down, loose gear lashed, sheep and goats sent below, etc.

At 2 A. M. I awoke to find a strong wind blowing and the ship rolling badly. Hearing a commotion among the horses I went below and found the syces on duty vainly attempting to get three horses that had fallen on to their legs. I called down all hands and kept them standing to the horses heads for 12 hours. By 4 A. M. the breeze had increased to a violent gale and a very heavy sea was running. The vessel stood it well, but the horses in the after part had a terrible time.

In the stalls were false floors consisting of three planks joined by battens. These latter all worked loose and left the horses standing on a mass of planks with nothing to secure them a grip. We got as much ash as we could from the engine room and threw it underneath their feet and all over the deck. Nearly all the horses in the after part of the ship fell. Some lay quiet, but others got underneath their next door neighbors, which necessitated taking the latter out of their stalls and then as soon as they fell, lashing their heads firmly down to the nearest available thing.

By 9 A. M. there were about a dozen horses lying thus on the deck, and as many more in the stalls with their heads tied down and syces sitting beside them. Most lay quiet once they were down and none received any serious injury, though it is marvellous how they escaped.

One horse died, but from the old complaint, pneumonia.

By noon on the 16th, the storm abated a little and we were enabled to water and feed the horses and at the same time keep the exhausted syces' strength up with rum and tea.

Towards evening, however, the wind increased again, but was more on our beam, so that the captain decided to heave to and face the storm. We remained thus breasting the waves till next day and drifted 30 miles to westward out of our course.

The vessel weathered it well and kept fairly dry, but the unfortunate horses had a really poor time of it, and my six men and I had as much as we could do night and day to keep them on their legs. Some even tried to jump out of their stalls from sheer fright, and consequently got hung up in their head-ropes.

At every roll 100 horses charged against the fittings on each side, and I expected every minute to see the whole thing carried away by their weight, in which case there would have been chaos indeed. Fortunately, they held out, and by midday on the 17th the wind had gone down considerably, the typhoon had passed, giving place to heavy rain. This beat down the waves, so that the ship being steadier we were able get all the horses in their places and to count the damage done.

With the exception of cuts and bruises of little consequence there was none.

On September 19th we anchored in the fine looking harbor of Wei-hai-Wei, just astern of H. M. S. *Terrible*. Nobody seemed to expect us or to take much interest in our arrival, and we were told to await orders from the front.

No news had reached Wei-hai-Wei for days, but the last orders from Peking had been not to forward any transports to Taku. Everything was at a standstill at the front pending the arrival of Count Waldersee who was on his way from Shanghai.

I inquired how long it would take to get an answer by wire from the front and was told five days, but probably longer, though it was only 250 miles.

The horses could not be landed at Wei-hai-Wei as there was no water on the island, and no means of conveying them to the mainland.

Needless to say that I did my best to be sent on to Taku, but to make a long story short, we were kept without orders for twelve long days and were then told to go back and disembark at Shanghai.

It was impossible to exercise the horses on board the ship, so we spent the whole day in taking them out of their stalls and grooming a few at a time. The climate was perfect, fine and bracing. A cool north wind generally prevailed, which thoroughly purified the atmosphere of the horse deck.

The horses themselves seemed to take a new lease of life in

spite of their inaction, and became ravenous for their food. There were only a few which seemed to be still suffering from lung disease, and these we nursed carefully, bedding them down on deck, and tempting their jaded appetites with every delicacy procurable from oatmeal porridge to Chinese carrots.

Two more succumbed, however, post-mortem examinations showing as usual the same old cause of death—pneumonia. The right lung of one that died on the 29th was absolutely gangrened. It was a marvel how the animal could have lived so long.

On September 29th orders came to embark 2 pompoms and 25 men and to proceed at once to Shanghai. This was welcome news, as a move in any direction was preferable to the monotony of lying in harbor with 200 horses on board. Personally I was disappointed at not being sent to Taku where there were already two pompoms without horses.

The siege train from South Africa were encamped on the island, while 800 splendid ordnance bullocks from India and two regiments of native infantry were on board-ship awaiting orders like ourselves.

At noon on September 30th we left Wei-hai-Wei and were favored with perfect weather and a smooth sea to the mouth of the Yangste Kiang. Our pilot there told us that we must drop anchor and wait till evening before proceeding to Woosung. He also destroyed all our hopes by announcing the disagreeable fact that we should have to wait about a week before being able to get over the bar in the Shanghai River. This, when we had already been on board thirty-three days was disappointing, to say the least of it, especially so as it had not been anticipated.

On the evening of the 3d of October we anchored about two miles off the Woosung forts. Foreign battle-ships of all nations surrounded us. Even Austria and Holland were represented. All looked smart and business-like, especially those of the Japanese and of course our own. Close alongside of us was the United States battle-ship *Oregon* which made that famous run of 12000 miles round America and went straight into action off Cuba. The men-of-war were watching the forts, which looked formidable enough and well armed with breech-loading guns.

The forts were under the command of a general who rejoices in the appropriate name of "Bang." At Woosung is the terminus of the Shanghai-Woosung railway, 12 miles in length.

Shanghai, "the finest city of the East," is a truly marvelous place. The English, American and French concessions extend along the bank of the river between the docks and the Chinese city. Fine wide streets with magnificent buildings and shops. Everything quite European, in fact. Then away from the main thoroughfares all is Chinese, picturesque, but hard to describe. Every nation in the world is represented in business here, and at the present time soldiers and sailors of every nationality add to the cosmopolitan mixture.

If any one wishes to study humanity in a limited time, let him pay a visit to Shanghai. The British Empire is represented by a brigade of native infantry, including Sikhs and Gurkhas, and a squadron of Bombay cavalry. There are Germans in green khaki and straw hats. French in white uniform and helmets, smart American and Japanese sailors, Russians, Italians, etc.,

I will not attempt to describe them all, but must return to my horses, which are now landed after waiting a week at Woosung, and are exciting the curiosity and admiration of the population of Shanghai, both Chinese and European. Never have they seen so many big horses before, their eyes being used to the coarse little Chinese ponies of thirteen hands, which are especially remarkable for their long bodies and short necks.

Considering that the horses have been penned up on boardship for thirty-eight days without exercise they are wonderfully fit and well, but alas, 13 out of the 200 have died.

If I might be allowed to offer my humble opinion to any one who has to choose a ship as a transport for horses through a hot climate, my advice as to what he should pay particular attention to could be summed up in one word—*ventilation*. Horses must have sufficient air, and if they do not get it they die. The better condition a horse is in the more he requires. Nearly all the horses which had died of pneumonia, and on which I held post-mortem examinations were covered with fat. Drainage and ventilation go hand in hand, the latter cannot be perfect unless the former is equally so. Good wide open hatches and square

cargo ports like they have on the Australian horse ships are the things required.

It is hardly necessary to say that the fittings of the stalls must be strong, and I would suggest removable footboards being done away with, the battens being screwed firmly onto the deck. Pad the stalls as much as possible, especially the piece above the horse's head. Have plenty of disinfecting powder, of which none is better than a mixture of equal parts of sawdust, powdered charcoal or ashes and Macdougall's powder. Finally, beware of the use of slings.

PLENTY OF GOLD.

On the 17th of April the summary of the United States Treasury's report showed that the Government's aggregate gold holdings, for the first time in history, have passed the half-billion-dollar mark. The exact total was \$500,278,506, of which \$252,078,959 was held against certificates in the hands of the outside public, and \$150,000,000 as a reserve against outstanding United States notes; the balance being free assets.

This is the largest amount of gold now held by any single financial institution in the world, and it is the largest ever held by any institution, with one exception—the Imperial Bank of Russia, which in February, 1898, raised its total holdings to \$590,300,000. At present, however, the Russian bank holds only \$371,500,000.

The Bank of France now holds \$472,271,000, its high record being \$479,244,000 on the 4th of this month. Most of this gold is held against outstanding notes. The Bank of England holds \$169,100,000 gold, and the high record of its history was \$245,500,000 in February, 1896. Present gold holdings of the Imperial Bank of Germany are \$130,000,000, and its total of gold and silver combined never ran above \$222,500,000.

The United States Treasury gross gold holdings have increased \$76,439,000 within the past twelve months. In this month of 1899 they barely exceeded \$278,000,000 as against the \$500,000,000 now held. On February 10, 1896, they reached the low level of \$94,239,542.

SOME NOTES ON THE PEACE CONVENTION HELD
AT THE HAGUE IN MAY, 1899, WITH ITS RE-
SULTANT EFFECT ON "CUSTOM OF WAR."

BY MAJOR W. D. THOMSON, 1ST BENGAL LANCERS.

(*From the Journal of the United Service Institution of India.*)

THE Blue-book of the Peace Convention was presented to Parliament in October, 1899, by the irony of fate the very month in which the British Empire embarked on the most important war in which she has been engaged since the beginning of the century—a war in which 200,000 troops gathered from every part of the empire took part.

The inception of the Convention is due to the desire of the Czar to endeavor to limit the excessive and continually increasing armaments of the European powers.

It was evident before the first meeting of the Convention that there was no chance of even seriously discussing the possibility of disarmament. The English Ambassador at St. Petersburg writing to Lord Salisbury in January, 1899, said that Count Muravieff had mentioned to him the change in the aspect of the political horizon since the Czar's eirenicon has been issued, and mentioned that England, amongst other powers, was employed in increasing its armament. This was a somewhat startling statement to be made by a power which was at that very moment occupied in forcibly altering the constitution of Finland, so that more men might be made available for universal service; made too to the representative of the only first class power in Europe which was free from universal service, and which showed conclusively nine months later, that not only had she not increased her army, but was hopelessly unready for war even with the South African Republics.

However, the Convention met at the Hague in May, 1899; and though it was unable to go further than to express an opinion that it was desirable to reduce armaments, and a hope that means might be found to do so in the future; yet it occupied itself for six months in what it is trusted will in future prove to be useful discussions as to the possibility of voluntary resort to arbitration when the interests of two states clash, and how that arbitration should be carried out, also as to the means of

minimizing the horrors of war by giving a more humane construction to what is known to jurists as "International Law in Time of War" and to soldiers as "The Custom of War." It may interest some readers of this journal if I state briefly what conclusions were come to on these points.

The agreement come to by the Convention as to the best means of maintaining the general peace was formulated under six heads—

1. On good offices and mediation.
2. On international commissions of inquiry.
3. On the system of arbitration.
4. On a permanent court of arbitration.
5. On arbitral procedure.
6. On general provisions.

Nothing very new or original was brought out under any of these heads except under 4.

The British representative, Sir Julian Pauncefote, suggested that a permanent international court (*cour arbitrale*) should be instituted, to which all disputes amongst nations could be referred. This eminent diplomat had been the British representative at Washington, and may have gained the idea from his knowledge of the working of the High Court of the United States.

It was finally recommended by the Convention that each signatory power should select four persons, of known competency in questions of International Law, as well as of the highest moral reputation as arbitrators. If two signatory powers wished to have recourse to arbitration to settle difference, arbitrators should be called on from those selected as above to investigate the question and give an award.

An International Administrative Council and International Bureau was to be instituted at the Hague to carry on all procedure, correspondence, etc., connected with this "arbitral court."

If the arrangements indicated by this resolution could be carried out, civilized nations would certainly have made a long step towards reaching the age of gold, but the most cursory examination of the proposed basis of the court shows that it is a counsel of perfection and hardly a really workable institution.

No power *need* resort to the court, and if a power does so resort, and is dissatisfied with the award, there is no paramount authority to enforce such award. It is obviously unlikely that a power would resort to arbitration unless it is rather doubtful of its ability to enforce its own views on the power it is in disagreement with, by war if necessary, or unless it considers that the point is so insignificant that it is not worth fighting over.

We have typical instances of this in the attitude taken up by the United States and Great Britain lately on several questions.

When the Venezuela question was in an acute stage, America contended that every boundary question which arose in the North and South American Continents should be submitted to arbitration; but when a very vexed and burning question concerning the Alaskan and Canadian boundary arose in the Klondyke region, the United States refused flatly to consider arbitration as to Dyea and Skagway and the wished for port on the Lynn Canal.

Again, we have our own case. Though we have several times resorted to arbitration on comparatively unimportant points, invariably to our own detriment, yet when it came to be a really vital question such as that of the Transvaal, the country was unanimous in rejecting all mention of it and the question really hardly arose. We will now turn to the more practical question of the amelioration of the laws and customs of war by land and by sea.

"Custom of War" is a very difficult subject, though many people, especially newspaper correspondents, speak and write of it with a cock-sureness, born of ignorance and freedom from responsibility.

It is one which is seldom studied even by soldiers, and so there is always doubt and hesitation when these customs have to be put into force on active service.

The Convention may be congratulated in having taken one very admirable step in recommending to the powers the extension of the principles of the Geneva Convention to maritime warfare. When the above historical Convention assembled, whether from oversight, or from a consciousness of the difficulty of the whole subject, which necessitated only tentative steps

being taken, the rules of the Convention as to hospitals, etc., extended only to war on land.

They were at the Hague, with an unanimity seldom seen in the debates there, extended to sea warfare. Arrangements were made for the recognition of hospital ships, and for the exemption from capture of neutral ships taking on board sick, wounded, or shipwrecked seamen, during the naval battle; also for a similar exemption for the religious, medical or hospital staff of a captured vessel.

It is to be hoped that when a naval battle is next fought many unfortunate people, who have hitherto of necessity either perished or encumbered the already limited hospital accommodation of the battle-ship, will have a better chance of escape from death than has hitherto been the case.

Amongst other proposals originally made by the Czar were the following :

- (a) That submarine torpedo boats should be forbidden.
- (b) That battle-ships should in future be built without rams.
- (c) That more powerful explosives than those now in force should not be employed either for rifles or big guns.
- (d) That the throwing of bombs, shells, etc., from balloons should be forbidden.

When these points came to be discussed the various points of view of the different nations were most clearly displayed, and the results were such as would make a cynic doubt the utility of these Conventions.

The prohibition of the employment of submarine torpedo boats was only voted for without reserve by five States, namely, Bulgaria, Greece, Persia, Siam, and Belgium. Not one of these States has a navy, but they cast equal votes with first class maritime powers. The proposition was of course not carried and submarine boats are being built in feverish haste by every sea power except Great Britain.

The same fate awaited the attempt to stop the use of rams, though France joined with Greece, Siam, and Bulgaria in voting against their construction. One cannot help speculating what France was doing "in that galley."

The proposal concerning the restriction of the employment

of higher explosives than those now in use fell through, as was inevitable, but a declaration was made against the use of projectiles, the object of which was the diffusion of asphyxiating and deleterious gases. This was voted with only one dissentient voice, namely, that of the United States delegate. He very sensibly observed that he did not see that the employment of a temporarily disabling gas was more inhuman than that of a shower of lead, so he declined to consent to the inventiveness and ingenuity of his fellow countrymen being limited in this respect.

The Convention also recommended that for a period of five years the launching of projectiles and explosives from balloons, or by any new method of a similar sort should be forbidden.

This would of course bar the use of air-ships, flying machines, etc. The reason given by the Russian humanitarian who brought forward this proposal was that it was not fair to throw bombs under circumstances in which there was no fear from answering projectiles, and he wound up with the high sounding maxim, "*Soyons chevaleresque même dans la guerre.*" The theory advocated by him would, if carried to its extreme point, bar the use of guns of longer range than those possessed by the enemy, and would forbid the use of breech-loaders against savage foes.

These last two proposals did not raise much discussion; probably they have neither of them as yet come within the range of practical warfare, though the Zeppelin "*dirigible air balloon*" may be a step in that direction.

Before passing to the rules for the custom of war proper, it is necessary to notice two motions brought forward independently by delegates.

The first was a proposal that the dum-dum and other bullets of similar nature should be forbidden. This proposal was clearly and almost avowedly an attack on Great Britain, who had lately been forced to use such bullets against savages, and was adopted unanimously by all the powers except Great Britain and the United States, the only nations, it will be noticed, that had had recent experience in actual warfare of small-bore bullets entirely cased with hard metal.

The subsequent fate of the soft bullet may be noticed.

The British Government, when war with the Transvaal was

imminent, withdrew from use all soft-nosed bullets and have used hard cased ones throughout. The Boers, on the other hand, though with every wish to use hard bullets, were driven by want of ammunition, not only to use a class of bullet condemned by the Convention, but eventually were reduced to Martini-Henry and sporting ammunition. We cannot seriously blame them, as necessity has no law, but the fact shows how difficult it is to make binding laws for war which necessity will not make combatants throw aside without scruple when it comes to the pinch.

The resolution in question was brought forward by the Dutch delegate and its infraction was the act of their kinsmen, the Boers.

The other proposal which was brought forward was one by the United States as to the very difficult question of private property on board non-combatant ships in time of war. Numerous jurists, such as Bluntschli (Bavarian), Byukerhock (Dutch), and most Prussian and French writers on the subject have advocated the principle of "free ship's free goods," and even that property of a non-combatant who is a citizen of a belligerent nation should be respected at sea as well as on land. It was apparently this last question which America wished to bring forward.

This principle has always been steadily resisted by England, as it would always be by any nation which had the bulk of the carrying trade of the world and the largest navy in the world, as it would prevent all interference with the enemy's commerce. The question is inextricably mixed up with that of privateering, concerning which jurists have been disputing for hundreds of years. After some discussion it was decided that this proposal did not come within the limits of the subjects which were before the Convention.

The recommendations concerning the custom of war proper were divided into four sections, viz.—

Section 1.—On belligerents.

Section 2.—On hostilities.

Section 3.—On military authority over hostile territory.

Section 4.—On the internment of belligerents, and the care of the wounded in neutral countries.

Under the first heading not very many new points were raised, but a good many humane customs which had been, as a rule, observed in late wars now received the sanction of authority. These customs chiefly refer to prisoners of war, and a few of the least known may be specified. For instance, no personal property except arms, horses, and military papers may be taken away from such prisoners.

A bureau for information relative to prisoners of war must be instituted by each belligerent. It should be kept informed by the various services with the necessary information to enable it to keep an individual return for each prisoner.

Gifts and relief in kind for prisoners of war are to be admitted free of import duty, as well as of payment for carriage on government railways.

The wills of prisoners of war will be received or drawn up on the same conditions as for soldiers of the national army.

This last provision seems at first glance unnecessary, but is required owing to a legal theory that a prisoner of war while in captivity or on parole loses his civil rights. The point was raised in Parliament when a peer who had been captured in the Yorktown capitulation in America came to England on parole and was prevented from voting in Parliament.

A nuncupative will made by a deceased prisoner of war while in captivity would probably now be accepted by our courts if properly proved.

Prisoners of war are to be allowed every latitude in the exercise of their own religion, including attendance at their own churches, provided that by such attendance they do not infringe any police regulations drawn up by the military authorities.

Finally, a doubtful question was decided by the declaration that a war correspondent is an ordinary prisoner of war. We know of one instance in which General Joubert enforced this in the Transvaal, the war correspondent subsequently making a sensational escape, but in several other parts of the theatre of war, war correspondents appear to have claimed the same immunity as is given to doctors and ecclesiastics, and to have been on more than one occasion released.

Under the heading of hostilities we find that it is forbidden—

- (1) To employ poison or poisoned arms.
- (2) To kill or wound treacherously individuals belonging to the hostile army.
- (3) To kill an enemy who has laid down his arms.
- (4) To declare that no quarter shall be given.
- (5) To employ weapons or material of a nature to cause superfluous injuries.
- (6) To make an improper use of a flag of truce, of the national flag, or national ensigns and the enemy's uniform.
- (7) To destroy or seize the enemy's property unless such distinction or seizure is imperatively demanded by the necessities of war.

Of these (2) justifies the most stringent measures against ununiformed irregulars of the franc-tireur type, who having no uniform or having taken off their uniform by this means get close enough to kill sentries or to shoot into camp.

Most people would imagine that there had never been any doubt about (4), but it will be found that in the American instructions, as late as 1863, it was contemplated that under certain circumstances no quarter should be given.

(6) Has been the cause of much recrimination in South Africa during the present war, and no doubt the white flag has been often misused, but there are complaints about this, and about firing on ambulances and on red cross bearers in every war. The Berlin Conference nearly thirty years ago went into the question at great length, and it was decided that the use, or acceptance of a flag of truce or white flag as a token of surrender, only applied locally to the part of the field it was hoisted in, except of course when it was used by the order of the officer in supreme command, as at Sédan.

It was stated at this Conference that the white flag had often been used to obtain ten minutes to allow of the evacuation of what was becoming an untenable position. Probably when the full history of the Transvaal war is known, it will be found that the improper use of the white flag was made in nearly every instance by small semi-independent parties of burghers who, from their education and antecedents, were not as alive to the obligations imposed by this emblem as their leaders were.

- (7) Is also a point about which controversy is sure to rage

bitterly. No one but the responsible officer on the spot can be a judge of the necessity of war which makes it incumbent on a belligerent to destroy private property. The owner of the property and the belligerent naturally hold different views on the matter and the former will express his views in unequivocal language; but it may be taken for granted that an officer in a responsible position will not order the destruction of farmhouses, crops, warehouses, etc., and risk the inevitable ill-feeling which will ensue, and in these days of newspapers find expression, unless he considers he has a very adequate reason which makes the action incumbent on him for the safety of the troops under his command.

Under this section comes one more important stipulation, viz., that the bombardment of towns, villages, habitations, or buildings which are not defended is prohibited. There has never been any practical disagreement about this in land warfare, but it is a very difficult point in naval international law. Many sailors say that the position with regard to a coast town threatened by a man-of-war is quite different to that of an inland town threatened by an army. The latter can be surrounded and occupied, and many means may be used to bring the inhabitants to reason, they being unable to escape readily; but a ship cannot do this and can often only obtain munitions both *de guerre* and *de bouche* by threat of bombardment. The French claim that this will be a most potent method of putting pressure on a hostile maritime country which is not open to ordinary attack. Hall, in his book on International Law, says that when war with Russia was imminent in 1878, the Russian cruisers in the Pacific were going to make a dash for the undefended Australian ports.

The question will probably be settled in the next great naval war.

The only other point in this section which I need notice is the treatment of spies.

It is laid down clearly that a spy when captured is "not to be punished without previous trial," and that a spy who rejoins the army to which he belongs and is subsequently captured by the enemy is to be treated as a prisoner of war; and incurs no responsibility for his previous acts of espionage.

This provision has hitherto been usually adhered to, but as far as I can discover has never before been laid down in so many words. To depart from it would be to risk the execution of great numbers of innocent people. This has been proved over and over again in the cases of unfortunate foreigners who happen to be shut up in large cities during a siege. At such a time the mob is inclined to look on any and every foreigner as a spy.

Section 3—Deals with military authority over hostile territory.

Most officers, if asked to state when military authority over a hostile country begins, would be puzzled to say. In this Convention the answer is clearly given: "Territory is considered occupied when it is actually placed under the authority of a hostile army. The occupation applies only to the territory where such authority is established *and in a position to assert itself.*"

The occupant may collect the taxes, dues, and tolls imposed for the benefit of the State. This should be done, as far as possible, in accordance with the rules in existence and the assessment in force, and the occupying power is bound to defray the expenses of the administration of the occupied territory on the same scale as that by which the legitimate government was bound.

It is usual when the civil and judicial officials of the occupied country are willing to stay and carry on their ordinary duties to administer the country through them; but if they are not available, it will be necessary to appoint fresh ones at the discretion of the occupier.

It is only necessary to remark on three more points treated of in this section. They are that—

(a) An army of occupation may take possession of the cash, funds, and property liable to requisition, belonging strictly to the State; also all depots of arms, means of transport, stores and supplies, and generally all movable property of the State which may be used for military purposes.

(b) The occupying State takes over temporarily in what is technically known as "usufruct" all the public buildings, real property, forests, and agricultural works belonging to the hostile State, and must administer them according to the laws of usufruct.

The property of religious, charitable, and educational institutions and those of arts and sciences, *even when State property*, should be treated as private property. All seizure or destruction of historical monuments and works of science or art is forbidden.

The last three provisos can be more easily explained by giving examples.

In 1870 the German Government took over the administration of the forests of the Departments of the Meuse and the Meurthe, and felled and sold timber as they were entitled to do. They, however, exceeded their rights by most reckless clearing of whole tracts of forests, the timber being sold to contractors. At the end of the war immense numbers of trees were lying in the forests; and the French Government, while acquiescing in the sale of all that had been removed, confiscated all the timber which had not been carted away, and the contractors could get no satisfaction out of either government, which may be looked on as a warning to grasping contractors dealing with an occupying government. Again, when the German army reached Dieppe in 1871, a tobacco factory in working order, belonging to the French Government, was found there. Tobacco is, or was, a government monopoly in France. General von Goeben explained to the municipality that as State property, this manufactory belonged to the occupying Germans; and as he could not work it, or carry it away, and did not want to burn it, he would sell it to the town. This was ultimately done, the town paying 75,000 francs for the usufruct.

The last concrete example exemplifying this section relates to public monuments and objects of art and science.

Napoleon after Jena destroyed the Rossbach Column, and during all his conquests he appropriated, to call it no harder name, all the most valuable of the pictures, statues, etc., which were found in the occupied cities. These were sent to Paris.

When the Allies occupied Paris in 1814, Wellington had the greatest difficulty in preventing the justly incensed Blucher from blowing up the bridge of Jena, and all the captured treasures had to be carefully sorted out, identified, and returned to their countries.

The fourth and last section of the custom of war agreement

deals with the internment of belligerents and the care of the wounded in neutral countries.

It is clearly laid down that a neutral State, when it receives within its boundaries troops belonging to either of two States which are in a state of war with each other, must intern them *as far from the theatre of war as possible*. They may be confined in camps, fortresses, etc., and measures may be taken to prevent their escaping. The British Empire is especially interested in this at present, as great numbers of Boer soldiers crossed into Portuguese territory last October, and are by all accounts dribbling back now, and it is the duty of the Portuguese to stop this.

This question was much discussed in 1870, when great numbers of French stragglers of the Sedan army and prisoners of war who escaped from their billets during the early part of the march to their place of internment crossed the Belgian frontier, and, Belgium being very pro-French, were privately helped by the populace—not the Government—to get back to French territory and rejoin the ranks.

All the expenses of the up-keep of interned men are made good by their own State at the conclusion of the war; and we shall now see an interesting point raised by the Portuguese Government as to the expenses of the interned Boers. There is now no Boer State or executive to pay for the costs, and the Portuguese Government will look to be compensated by some one, or else they will release the prisoners.

It would be remarkable if it ended in the British Government paying for the support of large numbers of Boers in Portuguese territory.

Also, for how long must the Portuguese keep them interned, as there will not apparently be any formal declaration of peace?

The difficulties of the Portuguese responsible officials will be immensely increased also by the fact of the Boer commandos not being uniformed, as it will be hardly possible to identify any man for certainty as a Boer combatant once the formed bodies have been scattered.

The Convention was wound up by a final act which consisted of a recapitulation of the recommendations finally agreed on by the delegates. This was signed by all the representatives

of all the powers present, but Sir Julian Pauncefote was careful to explain that he did not in any way bind his government by doing so, as he was obliged to await further instructions, pending the examination of the Conventions and declarations by her Majesty's Government and their approval by the Queen.

The Blue book does not say whether the requisite ratification was ever accorded.

A few general remarks may be permitted before ending.

One point especially strikes a reader, which is, that the representatives of the smallest powers have equal voting power at this and, I suppose, at all Conventions with those of the greatest. For instance, we find delegates from Montenegro, Mexico, Persia, Servia, Bulgaria, Roumania, and even China voting on proposals concerning the action of large fleets, and their votes carrying nominally equal weight with those of England, America, France and Germany.

Another is that the new declarations concerning the "custom of war" are a good example of the progressive spirit of humanity noticeable amongst the representatives of the most enlightened nations of modern times.

Compare the injunction here formulated that pillage is absolutely forbidden, even when a town is taken by assault, with the custom universal 300 years ago of delivering up the town to the soldiers for several days and deliberately leaving to their mercy the lives and the honor of the women and children found there.

Again, compare the modern arrangement for a bureau of information concerning prisoners of war to allow of their friends knowing of their welfare with the recognized custom enforced as lately as the time of Cromwell of putting to death all prisoners of war who could not ransom themselves, and who were a burden on the resources of the victor.

In conclusion, the general survey of this Convention, while it gives the ordinary reader a most favorable impression of the very strong humanitarian impulse on the part of the Czar, to which the Convention owes its origin, impresses him even more with the difficulties which lie in the way of carrying out in practice what seem at first glance to be the most obvious con-

clusions suggested by humanity and mutual national good feeling.

I think, however, that there is no doubt that if the Convention has done no more, it has done good by setting up a standard which it is desirable, if at present impracticable, to reach.

MAJOR ANDRÉ'S DIARY.

It is reported from London that the diary of Major André, after lying hidden for a hundred years, has been discovered in England. This interesting find was made by Lord Grey while he was going over a lot of old family papers that probably had not been disturbed since the conclusion of the American War of Independence. Lord Grey's great-grandfather was a commander of British troops in America at that time, and André served on his staff. The diary is apparently the original, but in order to make sure that it is not a copy Lord Grey is sending to this country to secure samples of André's handwriting. The diary is a story of the campaign, day by day, during the years 1777-78, and is accompanied by maps, apparently drawn by André himself, and with a good deal of skill.—*Army and Navy Journal*.

CRITICISM AFTER CAMPAIGNS. THE BURDEN OF TROOP HORSES.

BY LIEUTENANT F. P. P. ROUSE, 1ST LANCERS, HYDERABAD CONTINGENT.

(From the Journal of the United Service Institution of India.)

"A man must serve his time to every trade
Save censure—critics all are ready made."—*Byron*.

TOWARDS the close and after every campaign we are invariably treated to a voluminous amount of literature bearing on the shortcomings and deficiency of our military equipment, and on the lessons to be learnt from the experiences passed through.

As often as not no campaign was really necessary to point us out "the lessons to be learnt," as in many cases they must have been quite evident before ever the campaign began; but a campaign having taken place, with the accompanying heavy expenditure of money and loss of valuable lives, deficiencies become more glaring and those, who, had they written in the ordinary course of events, would have had very little chance of their proposals being given any consideration, now think that a favorable time has come in which their ideas and suggestions may no longer be considered unnecessary, if not quite uncalled for, and calculated to upset the even tenor of the way.

Hence the ever-increasing articles "lessons to be learnt from"—or "some remarks concerning," etc., which in almost every paper, magazine, journal, and review we now see as a title to some military paper.

There is no doubt whatever that this is an age of criticism.

At no period in English history have men been so critical as they are at this the end of the 19th century—due no doubt to the spread and increase of education.

Formerly the mass of the population were contented to let those in authority and experts think for them more or less, but not so in the present day. There has seldom been any subject more universally criticised by Englishmen than the present war in South Africa, both as regards its justice or injustice and then as to the method in which it has been carried out.

Every one pays his allotted share towards the up-keep of our army, and of late years even the smallest contributor would

seem to consider himself in a minor degree a proprietor, and that as such his mite entitles him to criticise the doings of those towards whose up-keep he contributes.

Any one who has been at home during the past year could not fail to be amused at the manner in which the actions of our greatest generals were criticised by "the man in the street" in London, and by the country laborer, wherever he could get an audience to listen to him: they all liked to have their say and air their views in public, and not a few of them would almost have you believe that if only they had been there themselves things would have been different.

This universal criticism by, in many cases, more or less ignorant persons may have its disadvantages, but at any rate, it shows an interest taken in the course of events, and to take an interest in anything, provided that thing is not harmful, is bound to do one a certain amount of good, and increase one's thinking and calculating faculties.

Every one naturally conscientiously considers his own criticism sound, and this must be my plea for writing this article.

It is not improbable many will condemn on the spot or think not worth taking into consideration anything I may write, since it has neither the support of age nor experience.

To such I would reply in almost the words of Mr. Winston Churchill, for his argument has always appeared to me sound, if what I write is practical, it needs neither the support of age nor experience, and if it is impractical, neither the one nor the other should fortify it.

After our last frontier war many wrote or spoke on the inefficiency of our transport, and on small matters such as dhoolies, etc., but the war in South Africa has been more prolific of "lessons to be learnt." This time the R. A. M. C., A. P. D., and A. V. D. have all come in for their share of criticism, but the cavalry would seem to have come off worst of all.

The infantry did not escape altogether nor the artillery; their chief defect criticised being their more or less obsolete equipment.

Much has been written or spoken on this latter point, but perhaps the clearest discussion was made by Mr. Winston Churchill in his speech on imperial defense at Plymouth on

August 17th. Having successfully contested the Oldham division in the conservative interest, we may expect to hear many another practical speech from him who, it must be confessed, has now acquired to a very fair extent "the support of experience" if he has not yet "the support of age" for his arguments.

It is quite evident now if it was not so before ever the Boer war commenced, that our troop horses are over-burdened. We must have known it for years, but the break-down of our cavalry in South Africa has really brought the matter home to us.

It is a very easy thing indeed to criticise, but to find a remedy for some existing evil is, as a rule, a somewhat difficult matter. But most things can be remedied provided there is the determination and energy to do so, and that we, like Napoleon, do not know the word "impossible."

The condition to which our troop-horses in South Africa have been reduced is pitiful: we have constantly lost the fruits of victory owing to our cavalry being far too exhausted to carry out a successful pursuit, even if they have been capable of pursuing at all.

I will give one example, though any one who has taken part in, or followed in the papers the course of the Boer war, will probably recollect many others.

In the cavalry action of the Household Cavalry and 12th Lancers at Diamond hill—it was here we lost that splendid type of cavalry officer, Lord Airlie—we read "that the horses were so exhausted that the Household Cavalry had literally to flog them along with their sabres."

Before they were launched into the attack the horses were "done." It is, to say the least of it, disheartening to see your enemy moving away while you yourself are incapable of following up the advantage you have gained, for no other reason but that your mounts are tired out and cannot carry the attack further.

What has been the actual drain on our troop-horses cannot yet be ascertained; but if at the end of the comparatively short march from Modder River to Kimberley—84 miles approximately—General French had, as was reported, close on 1000 horses unfit for further effort, we may expect the number of

casualties amongst horses for the whole campaign to reach a very fair total.

The great loss in horse-flesh will, I think, be found to be mainly due to three causes, though a certain amount of exhaustion must be attributed to horses not being saved when opportunity offered and to carelessness and thoughtlessness on the part of the riders. This evil we have been told in a Circular Memorandum issued from Headquarters a short time ago can and must be remedied.

The main causes, however, I think, would seem to be—

- (1) The nature and breed of the horses employed.
- (2) Insufficient and bad food.
- (3) Last, but by no means least, the extraordinary amount of dead weight we put upon our horses.

The first of these causes which also, to a certain extent, embraces the second, for if we had horses of a hardier stamp and not "bred under conditions wholly artificial," they would not so readily break down when they have to put up with short rations or semi-starvation, as troop-horses during campaigns must necessarily at times be called on to do, has already been brought before our notice by Mr. Wilfred Scawen Blunt in his article entitled "How to breed horses for war," in the August number of the *19th Century Review*.

With reference to this article, I may say that the regiment to which I have the honor to belong is mounted almost entirely on 14.2 Arabs, and no one could wish to see better horses; whenever they have been pitted against walers, they have never shown themselves inferior, or to have labored under a disadvantage owing to their smaller size.

In fact, it has been the reverse. The hardihood and pluck of the pure bred Arab, not your Gulf-Arab, is well known, and when the waler after a long field day, where he has had to rough it a little, returns home tired and jaded, the little Arab trots in as perky and game as can be. My regiment, I think, fully bears out the justice and truth of Mr. Blunt's assertions. One point, however, I must confess, and that is, that if instead of the sower you put up the average British cavalry trooper with all his present impedimenta, it would be presuming on the endurance even of the Arab.

The third cause is the one I especially wish to comment on here and its importance is great, as until the present dead weight imposed on the horses can be reduced, it seems useless to think of substituting a smaller, hardier breed, but at the same time one of less weight-carrying capacity for what we produce at present. Roughly speaking, the weight a troop-horse has to carry—I am talking of British cavalry, not Indian—is 19 stone 4 lbs. This weight is not my own calculation except in so far as the weight of the trooper is concerned, which I have placed at on an average 154 lbs. (inclusive of his clothes), and this latter weight is anything but exaggerated.

The dead weight of 116 lbs. was arrived at by a committee which was assembled at Bloemfontein a few months ago.

The committee came to the conclusion that under the existing arrangements as regards transport no means of reducing this crushing burden could be adopted, and so far the matter has remained in *statu quo*.

I give the detail here—

	lbs.
Saddle (including wallets, various straps, breast-plate, sword, frog, carbine bucket, bit and bridoon)	34
Sword and scabbard	4½
Carbine	7½
Numdah	3½
Horse rug	4½
Blanket	4½
Water bottle (full)	3½
Mess-tin	1½
Feeding-bag	1½
150 rounds of ammunition and bandolier	12
Cloak	5
Haversack, soap, towel, etc.	3
Water-proof sheet	2½
Corn-sack (1½ lbs.) and shoe case (1 lb.)	2½
Two days' oats at 10 lbs. per day	20
Three days' rations, <i>i. e.</i> , 1 lb. tinned meat and ¾ lb. biscuits per diem with groceries	6
Total	111

The above seems an extraordinary weight, but the majority of it is absolutely necessary—all in fact save some 35 lbs.

A troop-horse, no matter how we could assist him, must necessarily always carry a very fair amount of dead weight, but

he certainly carries, roughly speaking, $2\frac{1}{2}$ stone which might be dispensed with *pro-tem*, such as one day's oats, one day's rations, part of the ammunition and certain of the minor items. It is this $2\frac{1}{2}$ stone we want to make provision for, as if we could reduce the weight by this amount, the difference would be considerable—

“ Oh the little more and how much it is !

And the little less, and what worlds away ! ”

Two-and-a-half stone is a lot in a protracted campaign : it would seem to be in fact “ the last straw which breaks the camel's back,” only in this case it is the horse's back, not the camel's !

A few suggestions have been made regarding the manner in which the dead weight might be reduced, such as “ some sort of light galloping field carriage,” but the proposals appear difficult to carry into effect, and in some countries the use of carts would be impracticable.

In an article in the *National Review* a short time ago the military critic of the *Westminster Gazette* in referring to the burden of cavalry horses said that “ the remedy is simple enough.” “ A couple of strong but light two-horse carts could carry everything except perhaps one day's rations, and should be able to keep touch with the unit under every conceivable condition.” I very much doubt it. In the last frontier campaign carts like these could certainly not have kept up with the cavalry, as in many places the use of two-wheeled carts was absolutely impossible.

Even if the country were moderately good, I think it would not require a very protracted campaign to show that the carts were more breakable than might be at first supposed, and that the weight would have again to be distributed amongst the horses. A single-wheeled transport vehicle, Russian style, or Captain Brooke Murray's one-wheeled transport cart which he invented some four years ago, might be practical, and after this last breakdown of our cavalry in Africa, perhaps it will be given a trial. It was made after the fashion of the Chinese wheelbarrow which has been employed in that country for hundreds of years. The wheel of the cart was about five feet high ; the load seven maunds approximately, being arranged on

either side with the bulk of the weight below the centre of gravity. It was propelled by three men. The cart was tried in the Malakand, but whether the experiment was a success or not, I have never heard.

What I think might be found practical is the employment of aged troop-horses—"casters"—sounder, in fact, than even the one-wheeled cart.

The rule in the service at the present time is to cast horses when they reach the age of fifteen, though plenty of them are by no means incapable of further work at this age.

They are either shot or sold for a mere trifle in India, generally to be used as ghari-horses in Bombay, Calcutta, and other large towns, and possibly, no probably, a great many of them end their days uncared for and neglected when they have deserved better treatment after their long years of labor. Horses are not like men, who, after their life's work is done, or nearly done, settle down to pass their old age in peace—they too often end it in misery.

Why should we not "kill two birds with one stone"—delay the evil day of casting, which in many cases might certainly with advantage be postponed, and at the same time form a transport of pack-horses out of would-be "casters"?

If we take 500 men as the strength of a regiment, and wish to make provision for the 35 lbs. per man, the approximate unnecessary weight now carried, we should have some 18,000 lbs. to account for. If every pack-horse carried 200 lbs., together with a pack-saddle weighing some 26 lbs., 80 horses would carry the 18,000 lbs.: in other words, we should require 20 pack-horses per squadron. I should say that in the above 18,000 lbs. the food of the extra 80 horses themselves is included.

Having got the said pack-horses, we should require some practical means of conducting them.

One man, I think, would be able to look after two horses in addition to his own—one on either side—but whether for certain he would find this too much of a handful, no one can say off-hand.

If this method of conduct were found to be practical, we should require ten men per squadron. These ten men might

either be chosen or take it in turns, or we might employ the least useful men and the worst shots for this especial duty.

I think these horses would be able to keep touch with the unit wherever it went, and in the evening or at the close of the day's march the baggage could be redistributed.

The horses, as the men in charge of them would not have the same power of defense as the combatant part of the regiment, might with advantage be taught to lie down, so as not to expose themselves to view unnecessarily.

Of course, many will say for horses with baggage on their backs, lying down would be out of the question, but I think not, provided we used the right kind of pack-saddle, and this, I think, is the Panthay saddle.

This saddle weighs 26 lbs., and is made in two pieces, the upper part fixing on to the lower; the baggage is placed on either side of the upper part, and putting it on or taking it off does not occupy a minute. The saddle is kept on the back merely by the weight, in Burma, no girths at all are used with it, and it never falls off, which is a decided advantage, as there can be no girth galls, which are so often a perfect curse to transport.

One might go a long way before finding such a practical kind of pack-saddle, and it is worthy of being introduced at least into native cavalry regiments.

I should have said above that the 80 horses required per regiment would not necessarily have to be kept up by every cavalry regiment. They might be kept up only by the regiments on the mobilization scheme, or if kept up in part by every regiment, then some 20 per regiment would be sufficient.

The system I have suggested of reducing the present burden of troop-horses would almost certainly have some disadvantages at first, and the method of employment would no doubt require perfecting.

I have merely given the rough idea, but if some regiment were given a chance of experimenting through a manœuvre season with a few "casters," I think my proposal might be found a practical one.

No doubt alterations would be found necessary and difficulties would present themselves; but I do not think they would

be very serious ones, and it would be the work and object of the regiment experimenting to try by some means or other to overcome them. In fact, the matter may be summed up in the few words, "nothing venture, nothing have."

For "the eyes and ears of the army" we certainly require light cavalry possessing the greatest possible mobility, and if we are to have in future, as so many have with reason advocated, a smaller and more natural breed of troop-horses, we must first find some method of reducing the present excessive dead weight that is carried, and the sooner the method is arrived at the better both for ourselves and for our horses.

INFANTRY IN A NEW CENTURY.

BY COLONEL THE RIGHT HON. SIR J. H. A. MACDONALD, K. C. B.,
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(From the Journal of the Royal United Service Institution.)

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Colonel VERNOR CHATER, late Commanding 25th Regimental District,
in the Chair.

ONE of the greatest masters of the Art of War, von Clausewitz, in a terse sentence, expressed a great truth, which has been too often forgotten in the training of soldiery. That sentence is, "Theory should, by lucid and rational criticism, prevent peculiar methods from outliving themselves."

It is in the case he was dealing with—that of military affairs—that the tendency to stereotyped procedure is most strong, particularly when a long period of peace produces a soporific effect. Thus it comes about that when war, which always drops like a bolt from the blue, suddenly calls upon the soldiery to show what his peace training has taught, too often armies have to pay in terrible losses, both of men and battles, for the failure of enlightened theory to keep a firm guiding hand on practice, compelling it to change its methods, as circumstances in which they are to be applied become changed from whatever cause. Maréchal Saxe says of the Romans that "they always gave up their usages as soon as they had found better ones." This was one of the great secrets of their success, a faculty for adapting their military methods to the conditions, instead of worshipping the fetish of form with closed eyes. The great Napoleon laid it down as an axiom that the detail of tactical working would change about every ten years.

The procedure of most countries, and particularly of our own, has been too often quite unlike what these great authorities have expressed. The late Commander-in-chief, speaking in this Institution very many years ago, said that: "It had apparently been our practice in formulating our drill to go upon the notion derived from old historic battles, and to create a system of drill to meet the circumstances and exigencies of this imaginary battle." He stated that his "view of drill would be

exactly the reverse of that process. I would find out what does take place in action—I would find out exactly what an action is from the very first moment a shot was fired until the position on either side is stormed and taken. I would find that out * * * and then work back from that * * * You have to accept certain difficulties ; work back from those difficulties, and try to take the sting out of the disorder we know to be inevitable, and, working back from it, deduce laws from it, and formulate your drill from them."

Our tendency has been during long periods the reverse of this, and rather to give the go-by to the consideration of new conditions, calling for new or improved instrumentality. It has been the common practice to ignore the fact that that which was done in the battle of a long past yesterday cannot be done to-day, and that what could not be done in that yesterday can be done and must be done to-day. Enlightened theory, grasping the lessons of practice, and foreseeing the effect of coming change in weapons and their power, was smothered in the wet blanket of official stolidity. The fascination of the existing forms and the easy conservatism which holds that "what was good enough in the Duke's time is good enough for me," combined with the sloth begotten of a long peace, found us in the middle of the century little further forward than we were in the time of the Napoleonic wars. Take an example. The rifle was a well-known weapon early in the century, and we had our Rifle Brigade under Wellington. Enlightened theory would have realized at once that the general introduction of rifled fire arms would increase the power of armament enormously, and would have seen that if rifling improved small-arms, it followed that it would give greater efficiency to guns as well as to the infantry weapon. The theorist had seen this 150 years ago. There was one Robins, who in 1747 wrote thus : "Whatever State shall thoroughly comprehend the nature and advantage of rifled-barrel pieces, and having facilitated and completed their construction, shall introduce into their armies their general use, with a dexterity in the management of them, will by this means acquire a superiority which will almost equal anything that has been done at any time by the particular excellence of any one kind of arms."

Here was a man before his time, and one can well imagine how the military Pharisee of that day brushed him aside, as the Pharisees of old drove out the man who knew and told them of a great thing done, saying, "Dost thou teach us?" The contrast to this prescience of poor obscure Robins is to be found in the short-sightedness of the words of a great warrior already referred to, namely, Saxe; words which were quoted with approval fourteen years before the battle of Waterloo by a learned writer in this country, who gravely expressed the thought that the cross-bow and pike were weapons "not wisely laid aside." Saxe's words were, speaking in contempt of fire-arms, *qui font beaucoup plus de bruit que de mal*—make much more noise than they cause injury. We laugh at the Chinese, who, having had gun-powder far longer than ourselves, still train troops to the bow and arrow; but in degree we, too, have been fatuous in our time. Only in the fifties did the brass gun with its short length and smooth bore, and Brown Bess with her erratic round ball, give way to what science had preached for in vain more than a hundred years before. It may illustrate practically the truth of the assertion that we are slow to adopt a good thing if I mention two facts. One is that there was found in ploughing up the field of Culloden a revolver pistol on the Colt principle; and the other is that I saw in an old country house in Cumberland, laid as a curiosity on a deep window sill, a weapon dating 200 years back, in outward appearance like the old blunderbuss, with the thickening out of the metal near the muzzle, but the bore of which was hexagonal, and had small lands in the angles, exactly the same in principle as the Whitworth rifle of 1858.

It is in regard to the tactical detail and relative training applicable to the infantry branch of military service that the tendency to viscosity in the flow of ideas has been and is the most injurious. It has been so more or less in the case of all European armies from the time of the great Frederick, and in our own time from the Austro-Prussian War in 1866, when it first became manifest that the rifled weapon made the processional mode of movement, and the moral effect of external arrangement in closely dressed serried form, no longer applicable as a moral factor, and the shoulder-to-shoulder boring down tactics no

longer a practical factor, in the combat. Yet even the victors in that war were slow to learn the lesson till the loss of 6000 to 7000 men in a quarter of an hour at St. Privat, on ground with not more than a mile of frontage, gave a lesson that could not be forgotten, and drove the Prussians to improvised modes of action, which it was well for them were to be applied against badly trained and ill-organized troops. Thus a makeshift was forced upon authority, because authority and sound theory had not got *en rapport* in the reflecting time of peace, which is the time, and the only time, in which they can operate together to the best results.

It is in the case of the infantry that authority is most prone to frown upon the suggestions of theory as "new-fangled nonsense," and upon the man who entreats authority to look ahead, and see what must be provided against, and how it is to be done, as a faddist and a bore. The truth that the principles of tactics are unchangeable is distorted into the illogical corollary that tactical detail operations must be stereotyped. In what are called the scientific branches of the service, it is not so easy to follow frowning tactics, when detail change is pressed on authority. The inventor who has a good thing in weapons, or ammunition, or special explosives, or some important element in equipment or munition, is a gentleman that must be reckoned with. It is easy for authority to pigeon-hole the suggestions of the eager foot-soldier, desirous to improve the infantry machine, and adapt its working to the requirements of the modern combat, and it is natural to think lightly of what comes from a regimental officer, or a volunteer. But a Hiram Maxim, or a Professor Abel, or a Nobel, cannot be treated in that light fashion. If he has a good thing, his market is not limited to Pall Mall. It is with him as with the repulsed pedler in the story, who said: "Then if you won't, another will." And there is the spectre ahead of a series of inquiries in the House of Commons. This is the kind of question that appears upon the paper—"To ask the Secretary of State for War whether a Birmingham invention known as Bomber's automatic shell-burster has been offered to and accepted by the War Departments of two Continental Powers, and will he inform the House whether this invention was tendered as a secret commu-

nication to the Ordnance Department, and whether it was rejected, and if so, why?"

The poor infantry has no such protection as this. The sphere of invention in tactical handling of the infantry must remain in the region of theory. Maxim, Nobel, and Abel may show effectively what they can do with artificial earthworks manned by dummies, but the theorist in infantry work cannot exhibit the effects of his invention until he is provided with real enemies that it is legitimate to riddle, after he tactically gets at them, or while they are trying to get at him, as these scientists riddle the dummies. And the Secretary of State would be sure to get ready answers through the Intelligence Department if questions were asked. One can imagine him gravely reading a slip taken out of his dispatch-box: "In reply to the honorable and gallant member, I have to say that the system in question was considered by the military advisers of the Department, but in consequence of the recent publication by a distinguished foreign officer of a remarkable paper entitled 'A Midsummer Night's Dream,' in which the abandonment of fighting in extended order is demonstrated to be right, and also of the fact that at the recent French manœuvres large bodies of men in close formation were employed in attack in the open, it has been officially decided that, with all deference to Field-Marshal Lord Wolseley and Mr. Archibald Forbes, 'shoulder-to-shoulder' is not dead."

If in the new century this country is to make the advance it should in developing the efficiency of the British infantry, and if that infantry is to be as it should be, and as in former days it was confessed to be by our enemies, by the mouth of Marshal Bugeaud, "the finest infantry in the world," two things are essential: first, that earnest thought and study be given to the war questions of the day by earnest soldiers and by earnest students, whether of the Regular army or not; and, secondly, that the official mind should be as fully and formally directed to the consideration of the problem with all the light that can be got upon it, as that official mind is accustomed to consider with studious experts the scientific inventions to the destructive power of which the infantry must expose themselves. Without these two things, no real progress can be

made. And it is for that reason that I have dwelt upon the past, to endeavor, if possible, to convince the official mind from the lessons of history, that the failure to act on von Clausewitz's maxim has done incalculable evil in past days, evil which has caused much loss in blood and treasure and prestige.

The first thing to be done is to formulate, as exactly as possible, the present conditions, that it may be seen wherein they differ from those of the past.

The principal conditions of the modern combat in relation to infantry are :

1. The fire-swept space measured by miles in the case of artillery, and by much more than a mile in the case of small-arms.
2. The location of the fire—both in distance and laterally—made difficult by increased range, and often impossible by the use of smokeless powder.
3. The speed of fire increased in a proportion of at least 6 to 1.
4. The possibilities of accurate fire with all fire weapons increased in a very great degree, both by the excellence of the weapons and ammunition, and the improvements in range-finding and sighting appliances.
5. The more effective character of fire from the flattening of the trajectory of all arms, and from the improvements in speed of fire and destructive power, and in the case of the artillery from the development in shell design and explosives.
6. As a result of the changes in weapons, protracted fighting in the preliminary stages of the combat, at distances at which the personnel of the troops engaged is not effective as a moral factor, in contrast to the old days in which the engagement did not begin until the opposing forces were at a short interval, so that appearances were a potent factor. Marshal Bugeaud describes the sight of our troops, silent, and from their steadiness like a long red wall when the enemy was only 300 yards off, producing an ardor-cooling effect on the French soldiery advancing with shouts of "*Vive l'Empereur—en avant—à la bayonnette.*" All this moral effect by outward appearances is gone forever.
7. Impossibility of the movement of troops being conducted

by the set word of command of officers in high rank commanding several hundreds of men, combined with the fact that as smokeless powder makes the locating of a force difficult, loudly-shouted words of command may reveal the position of troops, which it is important to conceal.

8. Great increase of physical strain, in consequence of the long space to be covered by troops under fire, and the protracted character of the fighting in which enormous quantities of ammunition are expended.

9. Great increase of moral strain caused by the protraction of the severe phase of the combat, combined with concentrated losses, without that power of immediate retaliation—retaliation seen to be effective at the moment—which is always an important inspiring element in all contests of force.

10. In consequence of these stresses, difficulty in maintaining effective, controlled, and regulated fire, and disciplined action on approaching to and at close quarters.

11. The certainty that, at and after the decisive moment, and at the very time when well-prepared counter-stroke will take effect, there will probably be a confusion of units far greater than in the days of short-range combats.

12. That unless efficient means are found for providing ammunition supply during the engagement there may be failure, excessive loss, and capture, where there should have been success.

In stating these heads, I am open to the charge that little or nothing is being brought forward in the list which is not known already. I admit that. But it is important to gather these things to a focus for purposes of general view; and, still more, it is necessary to keep on emphasizing them, because, although they may have taught their lesson, there are many signs that the lessons are not in all cases receiving effect. All these things were true in a certain degree for the last forty years. But even twenty years ago what practical heed had been given to them in the daily routine of infantry work? *Fas est ab hoste doceri*. Let me take the words of a Boer who fought against us in 1881, and who in friendly conversation in a much later year told of his experiences, and expressed his views as to our prospects if we again came to blows with him and his comrades:

"The red-jackets left their white tents in the morning about 9 or 10, after they had had their breakfast, and formed up. Their red coats could be seen by everyone, their bayonets glittering in the sunshine. The surveyors went and measured out spots where they had to stand in lines; and then they formed up, every man straight. The adjutant came and cocked his eye down the ranks to see that no one was an inch behind the others. They numbered, and the colonel rode up. The colonel was on a fine horse, and had a beautiful sabretasch. 'Men,' he said, 'you see those rocks. The enemy are behind them. You are to go and drive them out.' They marched up in rows. They cheered. All this time we were sitting quietly smoking. As they got near, the commandant called out, 'Men, defend yourselves.' Then we put our gun muzzles from behind a shelter of rocks, took aim, and picked out the officers, and fired. * * * We just picked off all the leaders as they came up." Then the Boer expressed how "greatly we admired the bravery of the English officers. * * * To us such bravery is marvellous, we cannot understand it; but it is not war."

Now, is there anything unjust, anything improperly sarcastic, in these statements? I cannot think so. I have seen at manœuvres in this country, much later than the Boer war of 1881, many instances of the same blind adherence to parade forms, where they had no application. Not more than a dozen years ago I was put in command one day at Aldershot of a mixed force, which included a battalion of a line regiment. The force was retiring by orders towards a fortified position. When ascending a bank, covered with bracken, waist-high, this battalion, which was retained for reserve purposes, was directed to line the bank at a place selected because there was a turf wall which would enable it to hold on, and cover the retreat of the fighting line, the ground being so steep that tiers-fire was appropriate, and the turf forming a ready-made and efficient shelter-trench. I turned round to attend to something else for the moment, and on turning back, saw, to my intense amazement and disgust, a string of markers out, some in front of the wall, some behind it, and one on the top of it, and the battalion carefully dressed among the brackens, and left standing upright so that half of it formed a beautiful red streak against the bank

that could be seen a mile off, and the other part which was behind the wall was dressed so beautifully straight that two-thirds of it showed above the turf. I am thankful to say that I have completely forgotten the number and the territorial name of that gallant corps, and if I did remember it I would cut my tongue out rather than divulge it. The scene was a ridiculous one, but it was painfully typical of a system which had become crystalized, and the blame should fall on that, and not on those who were carrying it out in excessive conscientiousness. But unlike the cavalry charge of old, it was, while certainly not *la guerre*, in no sense *magnifique*. It was barrack-square gone mad—a very gross case, but a specimen of one of the effects of our system of drill, and the way in which it was carried out under our mode of inspection.

The truth is that those who had to do with the affairs of the infantry were for generations dealing with conditions in which the glue-pot principle was the dominant factor. The effort was to produce the solid, rigid article—as von Clausewitz expresses it, “held together merely by the glue of service regulations and a drill book”—as the carpenter, supplied with plenty of glue and nails, can make a broad rigid front out of narrow planks. Solidity, density, rigidity were the aims in building up the infantry unit. I find in the *Military Journal* of 1799 infantry described as “a solid, close body which sustains itself by the density of its several parts,” and so late as 1825 a very able military writer uses the words “steadiness, solidity, and compactness,” and declares these to be “the true and only strength of the infantry,” which was spoken of as “not altogether without mobility.” All this was true when it was written, and would be true now if the conditions were the same. It is now the exact opposite of what a true description of infantry work would be. The conditions, as we have seen, have totally changed. But while the conditions have changed, there has been much sluggishness in adapting the training to the conditions. Tradition has dominated where enlightened theory should have pressed its case upon every thinking mind, so that it could not be gain-said or resisted. It is a curious feature of our national character that it contains two elements which are in very marked contrast. We have an instinctive detestation of change, except

in ladies' fashions, and in military tailoring and hat designing, while we have a marvellous power of adaptability when change is forced upon us. One of the most satisfactory features of our national character is, that the evils of the former idiosyncrasy are so often modified by the power contained in the latter. The evils are great, and do much harm, but our adaptability, and the cheerful way in which we acquiesce in the excellence of what we formerly denounced, when we have to assimilate it, is very remarkable. There is a very amusing instance of this to be found in the case of our Infantry Drill in recent times.

In 1872 the following words were published as regards infantry movements :

"Each man should move perfectly freely, and have fresh air on either side of him. And instead of forbidding the swinging of the disengaged arm, it should be made the rule."

Well, they say that everything comes to him who knows how to wait. The first thing to be done was to persuade authority to give an interval between files in the ranks, to free the body, and give circulation of air, and, above all, to make the soldier feel himself a unit and not a plank glued into a palisade, an unintelligent look-straight-to-your-front automaton, in which any natural mode of action was a crime.

After much pleading by Sir Lumley Graham, commanding the Royal Irish Regiment, and others, as well as myself, marching with an interval was tried at Aldershot by two regiments in my lamented friend General William Fielding's brigade, under the command of Sir Archibald Alison. They both spoke to me in private of the unmistakable success of the experiment, and I remember saying to them then in 1883, "I have seen to-day part of what I have longed for since I was at Salisbury manœuvres in 1872, and in the words of Napoleon's veteran at his tomb, 'I shall die content,' the rest will come sooner or later." Authority then proceeded to crush the improvement. Strict adherence to the Book was enjoined, military newspapers jeeringly announced that what they called "wet-paint interval" had received its quietus for ever. Officers expressed to me their regret and spoke despairingly. I did not despair. I told them that no real change in the Drill Book took less than a quarter of a century to work itself out, and they must wait. I knew

there were those in the army who saw, and that those who were blind would pass away. First came the abolition of touch. Then, as was inevitable, the wooden arm was abolished and the natural arm restored, and the march at all times became what it should be when the palisade formation has given way to the effective fire formation, when room is given to the soldier, as Sir Lumley Graham expressed it, "to use his arms and legs to the greatest advantage," leading, to quote the Archduke John's words conversely, to the production of "the living organism," instead of a "machine-like army." Of course the opponents assured us that troops could never march accurately without touch, which, of course, was nonsense, and that every sort of looseness and failure of discipline would result from allowing the soldiers' march to be according to natural action, and not as in a cramped and unpractical exercise. They were deaf to all argument. But *magna est veritas*. The contest is over. The march of the British soldier, and indeed of the soldiers of Germany and France and Italy, is now an interval march, with free swing of the arm, the embodiment of individuality in disciplined and intelligent unity of action. That it will remain so is certain, for all that was in use to be said against it was unwisely said, and is now unsaid. There was no more bitter opponent of these changes than that very influential military paper the *Army and Navy Gazette*, from which I quoted the phrase "wet-paint interval," used in supreme contempt of the proposal to give soldiers free use of their bodies in the ranks. I now take that journal as a witness. At last, an order was issued for all drill to be done with an interval, and with the disengaged arm swinging in rhythm with the step. For the first time, and after very short practice, this was carried out at the Trooping of the Color on the Horse Guards' Parade on the Queen's birthday in 1896. What said the *Army and Navy Gazette*, with that display of short memory so characteristic of journals, and most of all of military journals? "The men stepped with an elastic springiness and a freedom from restraint, with a high step and a smart swing of the disengaged arm, that was exceedingly fine. Indeed it would be difficult to find such marching anywhere else."

After the short but pithy commination service of 1883 in

the same print this utterance is good. "Elastic springiness" is good, "freedom from restraint" is good, and "smart swing" is good. When your words have to be swallowed, it is best to do so as if you liked it. There was little of elasticity and plenty of restraint about the touch march, and a swing instead of being smart would have condemned the delinquent to extra "drill till further orders" for unsmart and unsoldierlike conduct.

• Surely the time has come, after all that has happened within the last 15 months, for a final endeavor to construct an Infantry Training Book which shall be free of what practical soldiers must know has no longer any applicability to the time and the circumstances. May we not ask that in a new century we shall not be left to rattle the dry bones of what has no longer any of the soul of war in it? Is it too much to expect that there be an end once and for all to tinkering, and that the best men that can be found be put to the task of framing a system of infantry training, which shall no longer contain what Rogniat calls *une abondance stérile* of useless exercises, what the late Field-Marshal Sir Donald Stewart called "useless lumber," and the late General Gordon called "rubbish." General Gordon's words are pithy, and therefore I quote them. Writing to a friend regarding the training of an infantry force, he used these words: "All rubbish of goose-step—right-face, left-face—in which our army drills delight, should be left out."

The goose-step is still with us. It is about the best specimen of the military fetish that exists; a lamentable instance of unenlightened idolworship. I daresay the proposal to cut it absolutely out of the Drill Book will make "each particular hair" of many a barrack-square devotee stand up in holy horror. His Koran says that "The object of the balance-step is to teach the soldier the free movement of his legs, preserving at the same time perfect squareness of shoulders and steadiness of the body. No pains are to be spared to attain this object."

The theory was that men should march with a body, head, shoulders, chest, trunk, and arms immovable, carried on legs, the feet of which came to the ground, heel and toe together. This was one of those traditions coming down from slow march days, when what might be true of very slow marching was un-

scientifically asserted to apply to ordinary practical movement. It was nothing short of absurdity to state—as has been done for probably a century or more, and is still stated in the Drill Book—that any such thing is part of “what forms the very foundation of correct marching,” unless marching means something contrary to natural laws of locomotion. Yet it was thought that no greater heresy could be propounded than to say that in marching, as in walking naturally, the heel comes to the ground first. Drill experts would tell you no—that their mode of instruction was intended, and was successful, in bringing the foot into a position parallel to the ground and putting it down in that position, and that to do this was the only way of using the limbs that was right. Any skepticism on this point was met with a smile of pity at the ignorance displayed of military matters. They had been taught to teach that. It was good discipline to accept what they were taught. They taught it in their turn, and they believed what they taught. It was a blind obedience, for what they believed was false. The demonstration of its falsity is unanswerable. In the play of the *Octoroon*, where a crime is proved from a camera plate, the estate overseer truly asserted that “the apparatus cannot lie.” It cannot, and when photographs came to be taken in most minute fractions of a second, it was at once seen that many accepted theories about the motions of animals, including man, must be rejected. I have examined very many photographs and reproductions of photographs of soldiers marching either on the road or in marching past on the parade ground—including pictures of the Guards, the models for the army. In all these the theories of the goose-step are belied, even as regards slow march. The toe and heel are never brought into a parallel with the ground, and so set down. The heel comes first on the ground, and the toe follows. I do not say that some men cannot do it when marching in slow pace, particularly an officer steadied by carrying a heavy standard in front of him, but I say that it is not done by troops, even in slow time, and is not and cannot be done in quick time. And an appeal to the report of the camera is unanswerable. I have in my hand a snap-shot of the Guards marching past in slow time at Dublin Castle. It is conclusive. The truth is, that the goose-

step is the complement of slow march, and if it is at all defensible in association with it, it has no ground of existence apart from it. Slow step is now no longer a factor in practical drill. This has been seen in Germany, and the balance-step has been cut out of their Drill Book. But tradition lingers. As Köppel, the German author, wrote more than fifteen years ago: "Slow march and its barbarous cousin the balance-step are unknown to the *Reglement*. In spite of this, the slow march still lords it almost unopposed over the whole of the infantry." Discipline is set at defiance to keep up the obsolete and useless.

Thus they have officially abolished the practice of the goose-step, because they abolished slow march, to which alone it could be applicable, yet, in breach of orders, slow march is practised, and we, having abolished all practical use of the slow march, still keep the goose-step, ordering that no pains are to be spared in teaching it. However, this last rag of the obsolete will probably not survive a new edition. For, as we have seen, it is amazing how those who wring their hands in despair at any suggestion of adapting system to conditions, recover their equanimity when it is accomplished. They say, like Chatham, "never, never, never," and when they have said it in vain, they complacently bless, where before they cursed. We shall awake some morning and find the time-devouring goose-step has gone to the scrap-heap of obsolete machinery, and there will be no mourners.

That such things as have been referred to still present themselves in our training school, shows how little philosophical consideration has been brought to bear upon our system of instruction, and they have been dwelt upon in the hope that it will be realized, that just in proportion as development to suit changed conditions has in the past been slow, and carried on in a piece-meal fashion, often to our great loss, so does it become clear that we have reached a time when the whole of our system as expressed in the Infantry Drill Book, must be scanned paragraph by paragraph, and not merely worked on at one or two desks in Pall Mall in the way of an overhaul, but shall be so amended and adapted that the externals of drill shall have their proper relation to training for the field, instead of being as they so often are now, remnants of what once were actions and

formations relating to war, but which are now a mere means of wasting valuable time, and which it is only misleading officers and men to present to them as a part of war training. And in lieu of the obsolete and useless, which we shall thus get rid of, there must be incorporated those things which modern conditions have created a necessity for, and modern science and invention have presented us with. We have suffered much from the failure to act thus in the past. If we do not take the lesson now, at this great opportunity, if now that our system has been thrown into the fiery crucible of war, we neglect to take away all the dross and supply its place with new and sound material, we shall act criminally, and a coming generation may have our sin visited upon it in some day of trial. We have now a golden opportunity, at the beginning of a new century, when the nation is roused to the necessity of improving our military machinery, and is willing to make the sacrifices needful to attain the great end in view. May it not be lost or frittered away in once more turning over our old garments, and patching in with new cloth here and there, to the certain making of the rents worse.

All these things have been dwelt upon, because experience has taught that to rouse the average military mind to the necessity of considering change is not easy, and that, without this, suggested adaptations to meet new requirements will fall upon listless ears. In the earnest hope and belief that now in this year, 1901, a real and drastic overhauling is about to begin, I propose to draw an outline of the developments which appear to be desirable in our system of training, organizing, equipping, and clothing our infantry force.

First in order, the Instruction Book must be cleared of a great deal of the clogging element of obsolete forms, the drill still more simplified, and the work of the barrack-yard once more brought into direct relation in all its parts to the possibilities and requirements of the field. What is not relative to war must disappear from the regulations for ordinary training. To this end, the first thing to be done is to make the barrack-square drill have less association with mere moving about, and more association with fire exercises, and to put these two things in distinct and unceasing relation. The soldier, from the first day of his enlistment, onwards through all his training, must have

the rifle and its disciplined and intelligent use as a fire-weapon, made the very essence of his life, as a soldier. He should be taught something about his rifle on the very first day of his joining. It must no longer be the case that he shall be a soldier for weeks without having any association with the fire-weapon, and after he has got it he shall constantly find at drill after drill that the fire-weapon is made a mere burden, to be carried about, which he must shoulder, and slope and order, there being no association of its use for fire with his advancing and retiring, his halting and fronting. Something of development in accurate and disciplined use of fire must be learned or practised at every drill. At every drill the rank and file must be exercised in training for fire, and the leaders of the smaller units be exercised in the directing of fire, and those under them accustomed to receive and to assimilate such direction. Commanding officers should inculcate into all their subordinate commanders the conviction that every hour spent at drill in which the rifle has not been kept before the mind of the soldier as that for the intelligent use of which he is a soldier at all, and his capacity to use it effectively stimulated by exercise, is an hour more or less wasted. Great importance attaches to this, both morally and practically. The idea that musketry and drill training are two separate things, and that the former is not part of the daily business of the soldier is harmful, and has in the past done much evil. The officer has not been sufficiently impressed with the idea that fire-work is the essence of the foot-soldier's business, and that except towards an efficient bringing of fire to bear, all the marching by the right and by the left, and front forming, deploying, etc., are not practical factors in a soldier's business. Thus the commander, whether of large unit or small unit, and the men composing the unit have not been brought into real and constant association and routined in fire exercise together. Routine has been constant and wearying in matters not constituting modern field business, and the tendency has been to dissociate drill from field aptitude and fire exercise, instead of bringing movement and fire exercises into the closest and most constant daily association.

The next thing that is necessary in the preliminary training is that the drill by shouted word of command shall be used

only occasionally, and at the commencement of the drill hour, and that there be constant training in intelligent movement in response to observed signal. In these days of long-range accurate fire-arms, the stealthy mode of the hunter is more appropriate than the war shout of the close combat, and the shrill note of the bugle. When rifles are deadly at a long distance all shouting or bugling is dangerous. Surely, the present war has made this plain by sad experience. In an open country the presence of troops may be disclosed to the enemy over miles of distance by an ordinary barrack-square yell, or the toot of a bugle. Last summer, in camp, I heard on one occasion, when sitting in my tent, the word of command of a captain, who was out manœuvring against another at a distance of three-quarters of a mile beyond a thick wood. When he got excited the practice of the drill-ground returned upon him, and, although the instructions were to work by signal, he shouted, and revealed his presence to his opponent. It was an instance of the certainty that what is done at drill will be done in the field.

I fear we must believe, from all we hear, that the shouted word of command has caused terrible losses unnecessarily in the present war, nay worse, that sometimes the misleading shout or bugle call used by a cunning enemy has spelled disaster. The new conditions of war call for leading, in which on a quiet note from the whistle, every eye in the unit shall be on the leader, trained to understand his signal, and to intelligently respond to his leading in absolute silence, no word or signal coming from elsewhere taking any effect, each sub-commander down to the lowest group leader keeping his sub-unit in hand, so that what is desired may be executed promptly and efficiently. It is astonishing how in a day or two troops can be got to respond with intelligence, and can be manœuvred without a sound being heard. And it has this great moral value that every one can feel that he is practicing something real, applicable to actual service work, which no intelligent man can do if he is marched about for days and weeks in close formations with perpetual forming to artificial fronts, and constant halting and dressing into straight lines by this flank and by that flank, in response to loudly-yelled commands, accompanied with unceasing injunctions to look straight to his front, in weary mo-

notorious repetition of what never will be done, or indeed can be done within 2000 yards of an enemy under modern conditions.

Such work by communication of signal will be quite as effective in inculcating and keeping up the spirit of instant obedience as all the shouting of the present barrack-yard. And in relation to movement by visible signal, I would ask, Are we never to get rid of the arbitrary, artificial, and useless drill-ground "Front," which hampers free movement, and complicates what should be simple? Some years ago I pointed out that in our Infantry Drill-Book in the definition clause, three separate and contradictory definitions were given of the word "Front," I got half a loaf in the substitution of the correct word to express the extent of ground covered laterally by troops, viz., "Frontage." I still ask for the other half of the loaf—the abolition of the second alternative definition of the expression "Front," which is said to be "The direction in which soldiers face when occupying the same relative position as when last told off." This is a very faulty definition, and is made worse by the foot-note: "This definition is retained for purposes of drill, but it must be remembered that even at drill 'Front' means the direction of the enemy." Surely this is nonsense. Suppose a corps is standing to its front in the sense of this definition, then an order to change its front would be an order to turn away from the enemy, unless the enemy was obliging enough to conform. If a column, which is fronted to the east, is supposed to have its front to the enemy, then if it forms into line, the line will not front the enemy. Such a definition is hopelessly bad, and shows the absurdity of having an artificial front fastened on to a body of troops, necessitating two inconsistent definitions of the same expression. And it is also misstated, for if ranks have been changed, then the front under sub-section (*b*) is not an arrangement of the men in the same position as when last told off. What a blessing it would be if troops could be handled always by naming or indicating what was to be done by ordinary language or signal, using "right," "left," or "about," or "right up" and "left up," instead of speaking of a front which is fictitious, and obscuring the true meaning of "front," viz., the direction towards which action, as distinguished from mere movement outside the range

of action is to be taken. In movement by signal there can be no artificial front. And as movement must be by signal, the artificial front must go.

The next point I would emphasize is the importance of developing control as distinguished from command, by the formation of groups under group leaders, and making this an integral part of the organization. What is wanted is the handful of men that the group leader can control personally under his superior by individual observation. This mode of working should be constantly practised. It has been acknowledged on all hands that this is desirable and ought to be done, but it is not done; it still requires development, and should be made a distinct feature in the next Infantry Drill-Book. Dispersing of a unit into groups; rallying into groups after complete dispersion; and reforming the groups and then reforming the unit, should be a regular exercise. It would be found highly disciplinary, and the practice given to group leaders would make them most valuable on service, and aid the commanding officer in selecting the best men for non-commissioned rank. There is no way in which the all-important elements of tactical cohesion and of fire-control can be more efficiently developed than by the use of a system of grouping. But it must be a constant use during the training, and made matter of daily practice.

It is not necessary to say much upon the next head, which is Physical Training. Great attention has been given to this of late years, and with the best possible results. The present system has been most scientifically devised to develop the body and its different organs in the best possible way, and the teaching is kept in such a disciplinary style that as regards the inculcation of smart and prompt obedience it may well take the place of much of the present flesh-wearying repetitions of the drill ground. The recruit will get all that he requires of training in prompt obedience in an interesting and unmonotonous manner, while at the same time his physique is being healthily developed. The present war has shown that the troops sent out were in good hard condition, in contrast to what was the case in another part of Africa at an earlier date, in the case of corps in which the adjutant and sergeant-major were the *dii majores* of the instruction.

The next matter which is of great and ever-increasing importance is mobility, which involves in its consideration questions of equipment and transport, and also what I shall call artificial mobility. The present war has made it plain that the British soldier can still do wonders in getting over the ground on foot. The continuous marching that has been done on many occasions has equalled if not surpassed the feats of Crauford's Light troops. But it has also become manifest that no infantry marching, however magnificent as a feat of pluck and endurance, can give the results it did in former days, if your opponent has higher mobility from being so organized that his infantry is carried from place to place at a speed greater than that of foot-march. If this was seen in the earlier stages of the war, it is being seen still more forcibly now. For while we have a very large army of infantry in South Africa, we cannot dispose of the remnants of the Boer force, without, as we are now doing, organizing and assembling for the final operations a strong force of infantry having a higher mobility than ordinary foot-soldiers.

Now, we have four means of increasing mobility, and let us be thankful that as the primary object of all military organization is home defense, that in this country all of them are available, and the country itself affords the best means of making advantageous use of them. The four are: railways, motor vehicles, bicycles, and horses. Perhaps some may wonder that I put horses last. But I do so advisedly, for of all the four the horse is for home defense infantry purposes the most expensive, the most difficult to provide for, the most perishable, and the slowest. That we shall always require a large contingent of infantry mounted on horses is certain. For there are many occasions to which mechanical mobility is not satisfactorily applicable. Nevertheless, we shall commit a grievous error if we confine our efforts in the direction of increased mobility for the infantry to the organization of a horse-carried force only.

It is not necessary to say much about railways. All I shall say is that for home defense we are probably better provided in that respect than any of the Continental great powers. Our facilities for transferring troops from point to point, up and down, or across the country, are excellent and ample.

But in the near future a new development of mobility by carriage is certain to take a high place, and in a country so well intersected by good roads as our own, to prove itself to be of very great tactical value. I mean road power traction. Time does not permit that I should enlarge upon this tempting subject. It is only possible to give an outline of what may be expected. Motor vehicles, travelling at the rate of 20 or more miles an hour, will give great facilities for seizing advanced points, holding them while troops are coming up in support, holding on to cover withdrawals, and transferring troops from one part of the front to another or to a flank. The vision is of steel-plated motor wagons with machine guns mounted on them, working in aid of the infantry by conveying groups of them rapidly from point to point, forward, back, or to a flank, acting as the guard of bicycles when cyclists are engaged off the road, covering their withdrawal when necessary, or bringing forward their bicycles when they advance, obviating the present difficulty which handicaps the cyclist, viz., that his vehicle has to be left at a fixed spot, to which he must return. The development of the road tractor for war service, both combatant and transport, is one of the most important matters for immediate consideration, going far beyond my present subject. That for the infantry branch of the service its importance is very great indeed will, I hope, be realized. In the motor carriage we have means of locomotion in which high speed is attainable and can be kept up, the fuel for the driving being small in bulk and light in weight, while the motive power is not limited by any considerations of fatigue or feeding and watering divergencies and stoppages. It may also, looking to the speed with which a power carriage can go back and forward, be the means of, in great measure, overcoming the difficulty of infantry ammunition supply, which is daily becoming a more important factor in the combat. Motor traction, as applied to war, would furnish material for a full lecture by itself. Its importance cannot be overestimated.

The development of a large cycling force is one of the most important matters connected with our Home Defense. I presume that no one doubts this, and it is unnecessary to enlarge upon it. In no other country can a cycling force be more useful

in view of the intersection of its whole surface by roads. The combination of cycle and motor carriage will, as has been pointed out, be of very great value. General Maurice has successfully experimented in this direction, and his report is most encouraging.

As regards the mounted infantry, I would suggest that a certain number of horses should be made part of the establishment of every infantry regiment, and that during the year at least one-half of the strength should receive six weeks or two months training in riding and mounted infantry exercises, two men being attached to each horse, and in the exercises one-half of the men alternately doing foot duty. What is wanted is, that a large number of the infantry should be able to ride, manage, and take proper care of horses, and in this country, where there is so high a sporting instinct, I feel sure the soldier will cheerfully, for a month or two, take care of a horse, in preference to constantly spending hours messing with pipe-clay and polishing up a very unnecessary number of buttons, or going through the deadly monotony of guards, parades, and "fatigues."

Lastly, let me say a word or two about dress. The subject is a large one, and more important than most people think. The question what can be got out of the soldier, without his being lost to the service, temporarily or permanently, depends more on what he has to carry, and how he has carry it, than upon many considerations which authority has hitherto deemed all-important. The subject demands a full and unprejudiced inquiry. What I have to say is in the light of a question I read in an able military work: "Why should the soldier be the only working-man in the empire whose dress is entirely unsuited to the work which he is called upon to perform?" I shall touch on two points only. The first is, that the soldier should be able to free his arms from covering, whenever the weather makes this a natural thing to do. I repeat a suggestion which I made some years ago, and which has not yet passed the being-jeered-at stage. It is, that the soldier's jacket should be made with slightly projecting wings, and that the sleeves should be inserted and buttoned below these wings, so as to be easily removable, and that they can be carried separate.

The uncovering of the arm in warm weather is one of the greatest reliefs possible to a man who has to exert himself. It is done by the working-man all over the world. And nothing will refresh a tired man so much as being able when water is found to apply it from his elbows to the tips of his fingers. Thus the soldier, who has to work hard and carry a good deal of weight, would get a very important refreshment and aid to resist fatigue, which his present sleeve unnecessarily increases. He has a right to relief, seeing that he cannot in war have an eight hours' day, and may have to wait long for rest and food. I am led to believe from what I see in the illustrated papers that at the war a good deal of work is done with bare arms, and I would fain make it possible for the infantry soldier, when wearing his jacket, to free his arms.

The other point is the head-dress. There again experience has always been set at nought, the course taken being the most stupid and reprehensible that can possibly be. It comes down to us from the time when hard hats reigned supreme, when gentlemen went out to shoot and cricketers batted and bowled in tall hats built on iron frames. We have at one time pulled the hat in at the top, and made it like a French shako; at another, and, I suppose, because the Germans beat the French, we have rounded it off at the top, and put a ridiculous spike in it, making it into a bad imitation of a bad hat, the Pickel-Haube. But, through all these changes, the part that touches the man's head remains the same—a hard, metal-mounted, non-porous glazed pipe, that can only rest on the head in one position, is comfortless when on, troublesome when off, oppressive in summer, cold in winter, gives no relief from perspiration, and forces it all down the face—the worst device possible for a shooting soldier—a miserable testimony to human perversity, expensive, pretentious, and inconvenient up to the limit of human invention.

Seven years ago, I said publicly that “the soldier should have a head-dress such as all sensible men, who have liberty to wear what they please when they are taking strong and trying exercise, with exposure to sun, adopt of their own choice. The white man, all over the world, wears a soft hat with plenty of brim. Whether it be a felt wide-awake, or a tweed deer-stalker,

or a broad Kilmarnock bonnet, or a plaited seaman's summer hat, a flexible head-dress, well brimmed, is the choice of all men who have to endure physical hardship. Therefore I hold it to be sound logic that, in a time when the fullest strain of the soldier's powers may be called for, and it is essential to relieve him from all unnecessary pressures which will diminish his powers of mind and body, we ought not to be ashamed to take a hint from the ploughman, the sportsman, or the backwoodsman."

I was jeered at, and I tried to wait as I ought to wait, and am thankful I have not waited in vain. It is certain now that the hard hat of all shapes is doomed, and will disappear from the drill ground as it disappeared half a century ago from the cricket field and the golf links, the cover and the river. And when we get a sensible hat, we may also hope to get rid of the Lilliputian pork-pies and small slices of orange, called forage or fatigue caps, which some call smart, but which any sensible person would call ridiculous.

There is no time to speak of equipment, which certainly must be modified, and especially in the mode of carrying ammunition, and in the cutting down of load to a minimum.

Allow me, in closing, to express the earnest hope that no time will be lost, and that before the lassitude of relief of tension falls on us at the close of this war, full and practical examination will be made, and sound decisions reached in regard to the all-important development of the infantry for whatever it may have to encounter in a new century. This struggle in which we have been engaged is invaluable to us in two respects. It has given us practical experience of war under the latest conditions which no other European nation has had the opportunity of acquiring, if we exclude poor broken-down Greece; and it has done for us what is perhaps even a greater thing, indeed, as I think, of incalculable value. It has supplied us for the future with a boundless field for the practice of manœuvre and field firing exercises, in the very centre of our vast empire, so that we can give training in a real sense to large bodies of troops, without injury to land, and with the effect of bringing much money to a rural population. The necessity for many years of having a large force in South Africa instead of

being as some think a loss to this country, will be very great gain. We shall always be able to train troops within easy reach of home and of India, and in a good climate, as we now cannot train them except in the trying climate and at the great distance of India. Can this addition to our military advantages be over-estimated? I do not think it can. But one thing is necessary if the full benefit is to be reached. We must reorganize our whole system of training to what Guibert describes as *relatif à la guerre*. We must cast out of our system what is inapplicable to the conditions which exist, and discipline our troops by what is useful and practical, remembering—I use Colonel Maude's words—"That discipline is the product of intelligent drill—not the same thing as the mutual hypnotization which used to take place in our barrack squares."

Colonel J. A. FERGUSON; *p. s. c.*, (late Rifle Brigade):—Those who are acquainted with the service and the writings of the right honorable lecturer expected to hear an entertaining and suggestive lecture, and have not been disappointed. More than twenty years ago "Macdonald on Tactics" was a textbook at the Staff College. When I had the honor of being associated with the volunteers in Australia we adopted his method for our extended order drill. It never failed us in any ground; it could be learned in half an hour by the dull-est recruits—and recruits out there were seldom dull—and when I came back in 1883 I tried to get the authorities at home to accept it for our home army. It was tried at Aldershot and it was approved by every commanding officer, and I have never yet ascertained why it was not accepted. Colonel Macdonald has done the army good service for many years, and I am very glad to have this opportunity of acknowledging the great help his valuable book was to the volunteers of Australia. I am unable to follow the right honorable gentleman, however, in some of his remarks to-day, and I have noted a few points on which, if I do not exhaust the patience of the audience, I should like to comment. In the first place, I think the lecturer has rather set up a man of straw in order to knock him down. As regards the principal conditions of modern combat in relation to the infantry, those thirteen principles have been accepted by the army for a considerable number of years; certainly they have been taught for many years past at Sandhurst. But no doubt—and I hope we shall hear the opinion of some officers who have been at the seat of war—the present campaign will modify our ideas very much as to the distance at which men are safe in the presence of the enemy. We have been in the habit of teaching that men should get into extended order at least half a mile from the enemy. We shall have to double that, as the lecturer states to-day. Troops cannot approach the enemy, except in extended order, within a mile. But, is there not a risk in adopting changes hastily after the present campaign, that we shall be misled by the very exceptional character of the enemy whom we oppose? We shall never again, probably, be opposed by an enemy the whole of whose army consists of mounted infantry. I am quite sure the authorities in making changes, which they will assuredly make, will not be carried away too much by the experience

of this very unprecedented campaign. No doubt the supply of ammunition in the field is a most difficult question, one not solved yet. Perhaps the lecturer's idea of bringing these very modern machines into use, the motor cars, to help the question of ammunition supply might be a sound one. I cannot help saying that I think the lecturer's experience at Aldershot of a regiment which formed up on the highest possible ground was an unfortunate one. It must have been a very badly drilled regiment. More than thirty years ago, my own commanding officer, now Sir Julius Glyn, taught us how to utilize cover, and woe betide the man or company commander who halted a few yards in front of cover or a few yards in rear. I cannot think that the unfortunate specimen which the lecturer has brought to our notice to-day is at all an example of the drill of the army. All regiments must have been taught for many years past how to utilize cover. I entirely agree with the lecturer about the value of loose formation in drill; that is not a very new idea. Many years ago my own battalion in India was habitually drilled, especially in the hot weather, without markers, and the men used to keep their dressing quite as well at half interval as shoulder to shoulder. I suppose I am very old-fashioned, but I am not quite sure that I should be glad to see the goose-step go even now. The lecturer is accustomed to very exceptional recruits. He has to do with magnificent material in Edinburgh, but happily we still get a good many country-bred lads, and the ordinary yokel when he joins is hardly a man into whose hands you can at once put the rifle. I am sure we shall be all glad to see the period shortened if possible, but we must have a period of setting-up drill, and I am not quite convinced that the goose-step is the worst form of setting-up drill. Physical training of course is good, but it is questionable whether physical training will teach a man who is accustomed to shamle behind the plough how to lift his feet. Then as regards shouting the word of command; I thought shouting the word of command had been a long time obsolete. In my own regiment for many years the commanding officers always said to us: "Now, I do not want to hear a single word of command; whistle and signal"; I thought that was the custom in the army. There may be eccentric officers still left who will get markers out within 500 yards of the enemy, but that is not the rule of the service or what the authorities want us to do. As regards the ever-increasing importance of mobility, that is certainly one of the lessons we have learned in the war. But perhaps we shall never be again opposed to such a mobile enemy. With regard to motor vehicles, they are in their infancy; we have hardly got accustomed to the smell of them yet! Is it not a little premature to remodel our tactics to suit a vehicle which is still under suspicion, and which is hardly an accepted means of locomotion yet? However, I am not dissenting from the main conclusions of the right honorable gentleman, though I offer these small criticisms. I am entirely at one with the lecturer in essentials, and I think it is a most valuable thing that attention has been drawn to the necessity of having more mounted infantry, and real mounted infantry; not taking your picked men from the infantry battalions and half training them as mounted infantry, but having a large number in our service of real mounted infantry. Somebody wrote to the papers the other day and said rifle regiments ought to be turned into mounted riflemen. As a rifleman I should be very sorry to see the *chasseurs-à-pied* abolished, but we must have a large body of mounted infantry. We must have five or ten times the number of trained soldiers we have got. That is the real danger and difficulty of the country, that we have not got

the men. Give us the men and we will train them fast enough. I should like to see the whole country, every able-bodied man between the ages of eighteen and thirty, *every* man, put through the militia. I think the real lessons of the war are, more training in scouting, more practice in entrenching, and that every infantry soldier should carry an eatable ration in his haversack, and no man should ever go into action with only the iron ration that he cannot eat until he gets hot water.

Colonel E. T. H. HURTON, C.B., A.D.C.:—I should like to convey my very warm congratulations to the distinguished lecturer for his extremely able paper and for the very advanced views which he has put forward. I daresay he will recall the fact that nearly twenty years ago he coöperated with me in pressing forward several of the points on which he has laid so much stress in the paper which he has read. I think it is only fair to remark that a very large number of important changes which he proposes have either in part or in whole been adopted. Certainly, the principles which he advocates are universally accepted by all soldiers at the present day who are in active employment. I think that the lecturer has perhaps laid less stress than he might have done on that principle of military organization which is so vital to success on the field of battle. I am sure that the omission is an oversight, because it is a question which he and I have discussed very often in former days, viz., that the real secret of the steadiness of men in action and of the disciplined handling of men under trying conditions is that the administrative formation unit and the tactical unit should be identical. He lays great stress very properly upon the advantages of a group system. I should like to be allowed to emphasize his remarks in the strongest possible manner, and I say emphatically, that the whole secret of success of leading troops in war under the conditions which now prevail depends on the decentralization of authority to the group leader and to the individuality group itself. This principle more especially holds good with mounted troops, with whom I have had perhaps more experience during the last twenty-five years than falls to the lot of many. The all-important fact which the right honorable gentleman has not dealt with as strongly as I think he might have done is that this group system must be accepted as the administrative as well as the tactical unit of organization; that is to say, that the sub-unit or group in barracks, in camp, or in bivouac, must correspond with the sub-unit or group on the drill ground, and on the field of battle. The right honorable gentleman has laid great stress on the importance of a development of loose formations. The tactical success of the British army in the future depends on our developing this system of loose formation, and on our being able to manœuvre and work our troops, whether in large or in small numbers, with the greatest possible facility, in extremely extended formation. The sooner this fact is realized and accepted the better. The right honorable gentleman finds fault with us soldiers of the present day for not having made further developments and greater changes. With all deference to the lecturer, I venture to think that no European army has made such developments and changes in tactics of infantry and of mounted troops as our army in South Africa has done in the last fifteen months. I can only say that in 1897 I attended the German manœuvres and the French manœuvres and there I saw the very tactics, which the lecturer scorns, were still upheld and practised by all the leading military authorities and influential soldiers throughout Europe. It is not much to be wondered at, therefore, if the British army has not yet

adopted all the very advanced theories which the lecturer has propounded. I will say this, however, that there is a very large school of British officers who accept not only all that he says, but even more, because during this late campaign our practical experience has shown us absolutely as a certain fact, that the close formations of the early part of the nineteenth century are perfectly inapplicable to the tactical formations required for the field of battle of the present day. The sooner we adapt our Drill Book to the innovations which are necessary to success on the field of battle in the future, the better for the British army and the British Empire. The lecturer has referred to the adaptability of the British soldier and his strong individuality. It has fallen to my lot to have considerable experience of the organization and training of our colonial armies, as well as our armies at home, and I think that you cannot touch, except with a very careful hand, anything that affects the discipline of the soldier in the field of battle. The last speaker has alluded to the goose-step. I am not in favor of the goose-step, and I am in favor of the abolition of a large portion of the existing Drill Book; but I hold most strongly that if you are going to have the British soldiers of the past emulate the deeds of their fathers, you must maintain a stern and relentless discipline on the field of battle. This all-important condition is only to be achieved by a great attention in the initial stages of the training of the soldier, by emphasizing in the strongest possible manner the steadiness of the man when he stands at attention, and his absolute silence under all and every circumstance. I should be prepared to sacrifice much to insure these points. But, with our colonial armies, especially where you have a very high degree of intelligence, and with our Volunteer services which are similarly recruited, you have no difficulty, really, in maintaining a very high standard of discipline indeed if you adhere to principles intelligently explained. The two principles which are all-important for success in battle are, firstly, a stern strict discipline—an effacement of the individual when acting in mass, and secondly, a high degree of individuality and self-reliance on the part of each soldier when acting by himself. As regards the first, the instinct of discipline which must be ever present to a soldier can only be gained on the drill ground, and should be imparted at the beginning of his military career. Therefore, if the lecturer will forgive me for saying so, I must beg of him to be very careful indeed how he touches, even indirectly, this important factor, viz., the steadiness of the men when acting in mass and the self-effacement of the individual at the critical moment on the field of battle. As regards the second, viz., the development of the individuality of the soldier—an all-important factor also on the field of battle—we have to recognize that extended formations necessitate the strongest individuality and the highest degree of self-reliance which we can obtain, subordinated also to the ever-present instinct of discipline to which I have alluded. We require, therefore, a system of drill and training which shall be based on these two principles. The author has alluded to the elimination of a large portion of the Drill Book, and has commented upon many of the obsolete forms, and especially upon the handling of arms. All practical soldiers agree, I think, that we could perfectly well simplify the manual exercise, and that the Drill Book might with advantage be reduced in bulk. The simplification and the curtailment of our military manuals affect not only the well-being of the Regular army, but the efficiency of the armies of Greater Britain. It is a point upon which I think perhaps those who undertake reforms here in London lay hardly sufficient stress, that

the slightest change made here at home reverberates through the whole of the empire, and extreme difficulty at once arises in dealing with it. The lecturer has alluded to mounted infantry. No doubt he will recall the fact that seventeen years ago he was one of the strongest advocates in pressing forward this question also. In spite of the strong advocacy of Lord Wolseley, the adoption of a system of mounted infantry was only accepted by the army after many years of argument and discussion in this Institution and elsewhere. The importance of a detachment of mounted infantry forming a portion of each infantry battalion, cannot be over-estimated. I feel perfectly certain that my recommendations of 1886 and the following years will ere long be adopted, and that as the result of this campaign we shall find that each infantry battalion will be provided with a small body of mounted infantry. Each infantry regiment will thus utilize its mounted men for all its scouting and reconnaissance. These duties must inevitably be carried out by mounted men under the new conditions of war on account of the great distances that have to be covered, and the difficulties of ascertaining the whereabouts of the enemy consequent on the general adoption of smokeless powder. Those principles of mounted infantry, which I had the honor to advocate in 1886 in this Institution, when the lecturer was present and lent his powerful aid, are now pretty generally acknowledged to be an absolute necessity to the warfare of the present day. Will the right honorable gentleman allow me to take exception to one remark towards the end of his paper? He alludes to the changes he advocates as being the primary object of home defense. I cannot for one moment suppose that he means to limit our defense to the defense of our own shores. The defense of England, as England is, can only be achieved by the defense of the British Empire, and by the active protection of British interests. The distinguished lecturer will, I am sure, agree that all changes in the British army must be such as will admit of its undertaking offensive-defensive operations in any part of the world where the fate of the integrity of the empire may be imperilled, and not by any means confined to home defense.

Colonel the Right Hon. Sir J. H. A. MACDONALD, K. C. B., in reply, said :—I feel complimented in having the lecture criticised by two such excellent officers and friends as the gentlemen who have spoken. I am very well aware that in a lecture of this kind one must be always appearing to advocate too strongly the points one is stating. It is absolutely necessary to emphasize these points, and I fear in doing that one is supposed to be setting aside other things which are also of relative importance. Colonel Fergusson said I had set up a man of straw to knock him down. I entirely agree with him that the principles on which he and I are at one are accepted by men who know and are willing to carry them out. But there are a large number of people in our army who, if anything is stated as an accepted principle by those in authority, are not able for a very long time to assimilate it, and that is a process which I wish to stimulate as much as possible with the aid of this Institution. The case which I quoted of the gentleman at Aldershot, who deployed his battalion with markers out on a bank, was an illustration not so much of the fault of the battalion commanding officer, as of the fault of those who had charge of the inspections. Such a thing could never have happened if our system of inspection had been wiser, because a proper system of inspection would have disclosed the folly of what was being done, and the commanding officer would have been rebuked for it, and it would not have happened again. That is one reason why I said I cer-

tainly would not mention the regiment if I had known it, because I attribute what I saw to the fault of the system. The speakers will agree with me that, till within the last twenty years, the system was such that men were called upon to prepare themselves, colonel, major, captain, adjutant, down to the lowest drummer-boy, in a way that had no relation whatever to modern war. That ought to be changed, and to a certain extent is being changed. What we want, I think, is authoritative forbidding of the natural tendency to do what we have always done. That tendency is very strong with soldiers, very strong with adjutants and sergeant-majors, because the moment you attempt to do anything more they think it unsteadies the men. There are false and exaggerated views about what steadiness means. "Steadiness" means really the spirit of obedience so inculcated into a man that he obeys just from nature and no longer does what is contrary to discipline, because it has become a second nature to him to obey. It does not matter to him what it is you train him to obedience in. Obedience can be as well inculcated by whistle and signal as by yells, the one being a mode applicable to modern war conditions, and the other not. I think it is common-sense that if you can train a man to obedience in what is useful, it is better than training him in what is not useful when actual war work is to be done. General Hutton gave a very good instance of a man springing up to attention, as a demonstration of good discipline. The Germans carry that out. If a German soldier is suddenly ordered to pump some water into a pail, the first thing he does is to come to "attention," and then he goes to pump the water into the pail. But that is no reason why men should be kept practicing at mere externals having no relation to actual soldiering, day after day and week after week, wasting time and wearying and destroying the interest of the soldier in his work. I hope it will be noticed that I said that the first part of the drill ought certainly to be done in a strict, disciplinary manner; but what requires to be realized is, that this can be and ought to be done without perpetual shouting of words of command, which one can hear half a mile off, and forcing men into stiff and unnatural attitudes and obsolete formations. It is a continuation of that, the perpetual wearying round of a barrack-yard, which, I think, wise men are learning to condemn as overdone, and consequently injurious instead of beneficial. I hope it will be believed that I do not disagree with anything said by my two critics. Colonel Fergusson said something about the bellowing out on the field having been abolished in the Rifle Brigade. That is just what I should expect. We know well that the Rifle Brigade has been always ahead of the rest of the infantry. What I want is the rest of the army to follow. General Hutton said I had not emphasized enough the question of the group being an administrative unit. I emphasized that pretty forcibly the last time I was here. I had not room to put in everything this time, and I was emphasizing the necessity of having groups established as a necessary thing in our service. When they are established they will become administrative groups. On one occasion I went to the War Office to see a very distinguished officer and spoke to him about the great importance of working together, and what a great thing it would be if the men could be grouped so as to do all their duties together. He said: "That would be a very good thing, but it would not work, because our system of squadding in barracks would not admit of it. When we have two men together in the British army these two men are never on duty together. Our plan is that one man shall do the duty and the other clean up all the things in the

barracks." If that is your system, then good-bye to all your system of attempting to make men work together as comrades. As soldiers they ought to be together day and night; wherever they are, the men that are grouped should be together. I say emphatically: If any system of squadding in barracks prevents that, the system is essentially bad for the training of our army, and the sooner it is altered the better. I may also express my entire concurrence with General Hutton in his view about our organization being not merely for home defense, but for offensive purposes. Our army cannot be efficient or satisfactory unless it is able to do work elsewhere than in the United Kingdom. But I do say this, that it is the duty of every country in considering all its different arrangements for the purposes of war to see that, if there are two modes of doing a thing, both of which are equally good, but one is better adapted to the nature of its own country than the other, the one that is well adapted to the nature of its own country is adopted; and I am sure General Hutton will not differ from me in that. You have been very kind in receiving this lecture; and being of a practical turn of mind, I should like to say this in closing. Lectures have very little effect unless those who listen to them disseminate abroad what has been said. Whatever you are going to do, no matter whether you do it according to anything said in my paper, or by the two gentlemen who have spoken, or in any other lecture delivered here, the important point is that not merely should we have Pall Mall reform—I do not know what is wrong there, but everybody in the newspapers seems to think there is a great deal wrong. I beg of you disseminate to the utmost of your power the urgency of leaving what is behind, and vigorously pressing forward to what is before. We want to have our whole military machine really taken out and thoroughly inspected, to see whether it requires alteration according to new conditions or requires to be refurbished up, and what regulations need to be rejected and what new regulations introduced. I do sincerely trust, now that we have had our first big war for a good many years, we shall not allow the opportunity to pass without doing our utmost to see, when we approach another war, that we shall have the best military machine that can be produced for the purpose of doing what requires to be done when such a misfortune overtakes us. I am most grateful for the kind way in which what I had to say has been received.*

* I should like to add that in urging that the soldier should at once on joining be made acquainted with his weapon, I did not mean that he should at once be entrusted with it altogether. What I did mean was that from the moment he joins he should have the fact impressed on his mind that it is *for fire—effective fire*—that he is going to be trained, and to help to this that at the very outset he should be taught something about the weapon, made familiar with it, and imbued with the truth that it is he and his weapon together that constitute the soldier that can do useful work in the field.—J. H. A. M.

Comment and Criticism.

"CONCERNING CAVALRY TRAINING."

IT seems to me that Major Allen's remarks are not only timely but reasonable and of greatest importance.

There can be no question as to the desirability of thorough and systematic training for the recruit horse, and it surely could best be accomplished at a regular training school.

This nation seems yet too young and in too great a hurry for results for us to hope for such a systematic course of training to be established for mounts.

It will not provide this even for recruit soldiers, though it takes less time for men to be prepared for regular duty than it does for the horses.

The longer I serve the more I am impressed at the small number of officers who take their profession seriously and are casting about to see how they can improve it and at the same time their capacity to give better returns for their regular stipend.

It is a good characteristic to be thoroughly satisfied with one's proficiency along certain lines, but it is a much more potent and satisfactory feeling to be able to demonstrate it on call.

There is no class of gentlemen who have any right to claim superiority in horsemanship over the "Army officer" as a class.

Opportunities are given them to learn not given to any other class, and they passively accept this general reputation and hence must accept its responsibilities. The world seems to concede proficiency, if not superiority in horsemanship to them without argument, whether the route goes over fences, across country, or 90 miles straight away.

It is a matter of business, not pride alone, then, that should inspire every officer to thoroughly perfect himself in every

question of biting and every variety of seat and recognized style of riding.

Too many of us are prone to condemn a method or suggestion through ignorance and by not giving it a fair personal trial.

I think Major Allen understates when he says but one man in a hundred has a perfect hand in biting. Some of the best authorities put it as high as one in one thousand.

Recall the number of troops or light batteries you have seen at a vigorous trot and of the times 10 to 15 per cent. of the horses were galloping.

The nervous horses fly up in the air, others are jostled and jerked and up they go. They are distracted by the pain of the twisting pull on the jaws, their eyes are rolling about, they are in no way composed or noticing inequalities in the ground they should avoid, at the same time maintaining a steady, connected and even gait.

The command "gallop" is given—the average trooper or driver astride of this worried horse as he begins to plunge forward, swings on to the reins, or pulls or yanks till the poor horse is mad with pain, his jaw soon becomes numb, and then who can blame him for bolting, or even flying if he could. The contention is that this imperfect and heavy hand on a snaffle would be less injurious and demoralizing to the animal than it is on a curb.

Of course a great deal of this trouble comes from riding on the reins instead of with the legs, cultivating a light hand, thus maintaining the mouth tender, sensitive, and ready to respond promptly when lightly pressed. As a general proposition the horse's good traits are developed and his good manners attained by proper biting and carefully perfecting his mouth and maintaining it by using comfortable and proper bits.

We are just as sure to eventually adopt the four-rein bridle in our service as we are to retain mounted organizations. It is bound to come. Those who never thoroughly tried four reins are the ones arguing against them. Why not then let every one give it a fair trial and test its possibilities, and then the change will be made without dissent.

From continuous trial for several years with all forms of

bits I think the bit and bridoon (arrangement No. 1) makes no doubt the best bridle. The broken and straight bar Pelham are both excellent bits, and make a simple bridle. My criticism on the straight bar being that a horse, if inclined, can bear more on one side than the other if he tries, and on the broken Pelham, when used with curb action, it rather tends to make a horse open his mouth, which is unsightly. All horses should be bitted with a tight noseband, thus teaching them to go up to the bit without this tendency.

We must have some change from the present bit for artillery. It is a poor and wrong hitch for a lead rein at either end of the branch of the present curb. It is cruel, misleading, and dangerous to put a heavy hand on a lead rein of an artillery horse so hitched, thus holding with a lever action on his delicate mouth when you only need a straight and light pull.

At least give us a movable ring where the bar joins the branches to which to attach the snaffle and lead reins. That will be a long step in the right direction.

CHAS. G. TREAT,
Captain Arty. Corps.

“CAVALRY TRAINING.”

There is no subject of more importance to the cavalry than Cavalry Training, and we can only hope to improve our arm by recognizing and studying its defects, and by making an honest and constant effort to correct them.

That there are many defects in our training most cavalry officers will agree, and as Major Allen points out, the principal ones which claim our attention are: inadequate training of remounts and recruits, faulty bits and bridling, and neglect or failure to encourage cavalry sports as an incentive to good horsemanship. As regards the first defect—inadequate training. This can only be remedied, in my opinion, by assembling the recruits and remounts before joining their regiments, at certain distributing points (depots), having an efficient cadre of instructors and proper facilities for training, and by conducting the same in accordance with a proper syllabus fixed by Regulations.

Each regiment of cavalry should have its own depot, loca-

ted most advantageously at Regimental Headquarters if the regiment be not on foreign service, at which would be kept the home squadron, and a sufficient cadre of instructors, consisting of officers, non-commissioned officers and men best fitted to do the work, should be carefully selected for training the remounts and recruits. A good syllabus should be prepared, based upon a minimum and maximum allotment of time for the purpose, which nothing should be allowed to interfere with, as the efficiency of the cavalry depends primarily upon the thoroughness of the preliminary instruction of the men and horses. The depots should be located at posts which contain the best facilities for this instruction—those having riding halls, drill grounds, etc.

That too little attention is paid to bits and biting in our service is, I believe, generally acknowledged. The fit of the bit is just as important to the horse as that of the shoe to the soldier, more so in fact, because the dumb animal cannot complain when provided with a misfit bit, while the soldier would soon rebel if furnished a shoe utterly unsuited to his foot. Great care is taken to prevent the latter; as great or greater care should be used to provide a proper bit and one that can be accurately fitted to the mouth of the horse. Our cavalry bit has some serious defects, the most glaring being the insufficient length of the upper branch of the cheek-piece. This should measure $1\frac{3}{4}$ inches from the centre of the rivet of the mouth-piece to the point of the upper branch at which the curb-chain acts. It measures $1\frac{1}{4}$ inches, and this causes the bit to "fall through," with resultant evil effects. The mouth-piece has only one variable dimension, which is its width. The mouth-piece should be of two thicknesses,— $\frac{1}{2}$ and $\frac{3}{4}$ of an inch, and the port should be of two heights. The curb-strap should be replaced by a good steel curb-chain and hooks, for the reason that the former will not lend itself so well to proper adjustment to the chin groove; and when old and it becomes stiff, as is invariably the case, it will not remain in the chin groove, but *will* mount up on the sensitive bones of the jaw, and produce pain if not worse. The objection generally made to the curb-chain, that it cannot be replaced in the field when unserviceable is unfounded, because in that event a leather curb-strap could be

substituted for it, as would have to be done in case of a worn-out curb-strap. The bit is structurally weak in its lower branch, a fault which can be remedied by making the branches heavier, or else by connecting the latter by a cross bar.

As regards bridling, double reins are indispensable, in my opinion, if we wish to insure in our horses control and a good mouth. If we have a bit and bridoon and ride habitually on the latter, we can always count upon a good mouth, and the curb will surely be efficacious when control is needed. Any supposed discomfort or difficulty arising from four reins in the bridle hand will soon disappear after a little practice in their use. I am unable to agree with Major Allen in his estimate of the comparative merits of the bit and bridoon, and the Pelham or similar combination bit. As far as my experience and observation go, much better snaffle and curb action are secured by the former than by the latter. The cavalries of the great European Powers ride with snaffle and curb, and most of them excel ours in manœuvring power, due mainly to that fact. I believe it is generally conceded that the Austro-Hungarian cavalry (whose troopers ride habitually on the snaffle) is the best bitted and trained cavalry in the world; and from what I have seen of its performances, I think that its reputation in this respect is well merited. In the great cavalry encounters, during the Autumn manœuvres, I have seen as many as 30 squadrons in the opposing lines, and when they drew up before the shock, their alignment was very nearly perfect, and in no instance was there a bolter or an unhorsed trooper, though the manœuvre terrain oftentimes was anything but favorable for cavalry. When the Cavalry School at Fort Riley is reopened, I think the course of instruction should provide for the systematic training of riding instructors, which would afford one of the very best means for insuring uniform and correct methods of equitation throughout the cavalry, and proper attention should be devoted to the training of the young horses, which was sadly neglected when I was stationed at that post.

I think much would be accomplished in the way we desire if the Cavalry School at Fort Riley were organized on lines somewhat similar to those followed in the Cavalry School at Saumur, the Reitlehrers Institute at Vienna, and the Cavalry

School at Hanover, rather than in having a course of training, such as should be found in every ordinary cavalry station. I agree with Major Allen, that cavalry sports should be encouraged and practiced whenever practicable, for the reason that they go a long way towards making accomplished and fearless horsemen. He is mistaken, however, in supposing that the importance of this matter is not appreciated nor understood at West Point. As early as 1898 representations were made to the Superintendent which resulted in the provision of twelve English saddles and bridles with bits and bridoons, for the purpose of instructing the first class in the use of this saddle and bridle, to perfect their horsemanship and as a preliminary to polo, which sport has been given much encouragement since that date, both by the authorities at the Military Academy and by the War Department.

O. L. HEIN,
Lieut.-Col. of Cavalry,
Commandant of Cadets.

Military Notes.

THE NEW ASSISTANT SECRETARY OF WAR.

IT is certainly a pleasure to the army to realize that Mr. Root, instead of selecting a politician as his co-worker, has chosen a gentleman who is not only thoroughly familiar with the National Guard of the United States, but who has for years been much interested in the affairs of the Regular army. Colonel Wm. Carey Sanger, therefore, steps into the office of the Assistant Secretary of War well qualified to take up and decide intelligently all matters pertaining to the military service, and through the extensive knowledge he has gained by his long visit to Europe in the study of military matters, we may expect to see something evolved from the War Office and presented to Congress in the way of a bill that will be of material benefit to the National Guard of the country.

NEW AUTOMATIC RIFLE.

A recent number of the Italian journal, the *Rivista di artiglieria e genio*, gives a *résumé* of the new automatic rifle invented by Lieut.-Colonel Freddi. This new weapon, says the author of the article, is a repeating one and is charged automatically. The force of the recoil is utilized to open the breech, extract the cartridge-case, recharge the weapon with a fresh cartridge, close the breech ; and the rifle is then ready for discharge. In this way the person firing may use up all the cartridges in his magazine by simply continuing to press the trigger, without being obliged to take the weapon from the shoulder. The mechanism of this rifle possesses the great advantage of being readily applied to weapons of any calibre or mechanism. The advantages, according to the author, are : (1) The extreme simplicity of the fermeture apparatus, the cut off consisting of only three pieces. (2) Impossibility of the shot leaving before the closing of the breech, because the striker

cannot act before the closing has been completed. (3) Certainty of the firer that the shot will not leave if the preceding cartridge has not been discharged, or if the projectile remains in the rifle. In these cases the rifle does not recoil, and the cut-off does not open the breech. (4) Finally, the great facility of handling the weapon whilst firing, the firer, as before mentioned, being able to use all his cartridges without withdrawing the weapon from his shoulder, and without being bothered by the recoil.

WANT OF MEDICAL OFFICERS IN THE PHILIPPINES.

The scarcity of medical officers in the Philippines, since the first days of occupation to the present moment, has been the greatest source of anxiety that has confronted the various chief surgeons. At the present time this scarcity is more apparent than it has ever been, and, roughly speaking, 10,000 troops are serving at posts with practically no medical attendance. The number of posts in the Philippine Islands is now 375, and is constantly increasing. To fill these posts there are only 336 medical officers now on duty in the islands. Of these 336 officers, 103 are detailed for other duties, leaving an effective force of 233 men to supply 375 posts. As an actual fact, there are at present [August 10, 1900] over 400 posts, and the medical force has been reduced by four. * * * In time of peace in the United States there were, roughly speaking, 20,000 troops and 180 medical officers, which gives 111 men to each surgeon. In the Philippines there are 336 medical officers and 63,000 men, or 187 men to each surgeon. A total of 500 medical officers is needed properly to care for the present number of troops in the Philippines.—Extract from annual report of Colonel Charles R. Greenleaf, chief surgeon, division of the Philippines.—*Medical Journal*.

MEXICAN CAVALRY.

The *Mexico Militar* states that the Mexican cavalry are provided with petards, or hand grenades, each consisting of a cartridge of Nobel dynamite containing three parts nitro-glycerine and one part silica, and weighing about 4 oz., enclosed in a tin case $5\frac{1}{2}$ inches long, $1\frac{1}{4}$ inches broad, and 1 inch deep, which

has a small hole at one end stopped by a piece of wood. To the wooden stopper is attached a tape by means of which it can be quickly removed; and when the grenade is about to be used a percussion fuse takes the place of the stopper. The advantage of this is that before the wooden stopper is removed it is almost impossible for the grenade to explode; a violent blow with a hammer, for instance, will have no effect upon it, and when placed in a flame the cartridge will simply smoulder away without exploding. Only a detonation, such as that caused by the discharge of the percussion-fuse or of a firearm close to it will explode the grenade. One grenade is sufficient to blow up a telegraph post; more are required for blowing up part of a railway line, the number used being regulated by the length of line it is desired to blow up, the explosive effect being added to by covering the grenades with earth or stones. For making a breach in a wall the grenades are suspended from it by a thread; other methods for using them in warlike operations will readily suggest themselves. During the months of November and December some Mexican military students and two regiments of cavalry were instructed in the various methods and exercised in their use, although, for economy's sake, during the exercises some few men carried out the operations while the others looked on.

RUSSIA.

The number of recruits required for the Russian army and navy in 1900 was estimated at 297,100. The number of men born in the year ended November, 1880, and therefore liable for service in 1900, was 1,012,629; to these must be added 20,601 men who had no certificate of birth, but who were judged to be of service age, and 97,658 men, whose cases stood over from previous years, making a grand total of 1,130,888 men. The actual number of men who joined the colors was 293,131, in place of the 297,100 estimated; there is, however, nothing exceptional in this deficiency. The men who failed to answer the call numbered 44,440, and of these 10,821 were Jews, forming nearly 25 per cent. of the total number of Jews called up. The total number of men examined by the recruiting committees was 847,420.—*Journal of the Royal United Service Institution.*

NO SYMPATHY WITH THE ARMY.

During the debate on the Military Academy Appropriation bill before its passage in the Senate on February 7, Mr. Allen expressed disapproval of the present system of retirement and said: "There is no more reason why the Government of the United States should pay a retired army officer or a retired naval officer than that it should pay my distinguished friend, the Senator from Arkansas, when he reaches the years when he cannot labor and support himself. The army officer or naval officer has that period within which to save his money, and the compensation is ample and he can save it if he will. So I have no sympathy whatever—not the slightest—with any man who wants to tack himself upon the Government as a charge after he has enjoyed the protection and the pay of the Government throughout his entire life. In fact, I regard in rather an inferior light the thought that a man should start out in life with the idea that the public must support him; that his personality is so dear and so sacred to the public that the public must support him by taxation. There is something wrong about it. It does not measure up to the full standard of manhood. He does not have that independence of character which ought to characterize every true American citizen, and I care not whether he wears brass buttons or not. I may say in general terms, as I have said heretofore, that I have no sympathy whatever with the Regular army of the United States—not the slightest—and by that I do not mean to say that I do not have a high personal regard for many gentlemen who are in the Regular army. But for the institution itself, in a great Republic whose military power must always reside in the people and whose great battles must be fought by the militia and the volunteer soldier—for a large standing army and an aristocratic standing army I have not the slightest sympathy, or indeed even the slightest respect."—*Army and Navy Journal*.

THE BRITISH CASUALTIES IN SOUTH AFRICA.

The War Office on Tuesday issued the usual return, showing the number of casualties reported during the month of January, and also the total reported since the beginning of the war. It is explained that the disparity between total of casualties

and the total reduction of the forces through war is due to the fact that the great majority of men invalided home have recovered and rejoined for duty. The appended table summarizes the return :

TOTAL REDUCTION OF THE FIELD FORCE, SOUTH AFRICA, DUE TO CASUALTIES.

Reported during the month :	Officers	N.C.O.'s and men.
Killed in action	10	130
Died of wounds in South Africa	6	46
Died of disease in South Africa	14	594
Accidental deaths in South Africa	1	30
Missing and prisoners	10	342
Sent home as invalids	65	2,109
Total	106	3,251
Totals reported up to and including the month :		
Killed in action	334	3,346
Died of wounds	103	1,081
Prisoners who have died in captivity	4	92
Died of disease	188	7,605
Accidental deaths	6	230
Total deaths in South Africa	635	12,354
Missing and prisoners (excluding those who have been recovered or have died in captivity)	15	922
Sent home as invalids	1,703	38,095
Total, South African Field Force	2,353	52,371
	54,724	
Total reduction of the Military Forces through war in South Africa :		
Deaths in South Africa	635	12,354
Missing and prisoners	15	922
Invalids sent home who have died	4	265
Invalids sent home who have left the Service as unfit	—	1,734
	654	15,275
	15,929	

—United Service Gazette.

RATHER LIKED HIM.

The long arm of coincidence sometimes exerts itself even in these matter-of-fact days. In a letter from Mr. Bennett Bur-

leigh, published in the *Daily Telegraph*, there is the following pretty story:—"Two officers, new arrivals from different parts up-country, rather lonely and bored, were loungingly awaiting luncheon. 'Let's sit together,' said the elder to the younger. 'Thank you; oh, I shall be glad,' replied the junior. When they had taken off the keen edge of their veldt appetites and become solemnly chatty, after our English military manner, said the senior, in a burst of confidence, over his inspiring whisky-and-soda, 'Do you know, I rather like you, and there's something about you seems familiar, as if we had met before. I'm Major S——, of the Blanks.' 'Hullo! are you? I thought so; and I'm Lieutenant S——, of ——'s Staff, just joined—your youngest brother.' There was an unrehearsed scene as the two khaki-clad warriors sprang to their feet and pounded each other's backs, shook hands, and figuratively, or as far as our race can—fell upon each other's neck and wept tears of joy. They had not met for years, and the baby brother had meantime sprouted into a tall youth with an incipient moustache. In a lesser degree something of the same kind happened to myself not so long ago at Middelburg, when, in a young khaki-clad scout, I discovered, one fine morning, my eldest son." —*United Service Gazette*.

LONG-DISTANCE RIDES.

Two Roumanian Hussar officers recently executed a long-distance ride, on their service mounts, under the following conditions, according to the *Romania Militara*:

They left Barlad at one o'clock P. M., and reached their destination, Galatz, at 10.30 P. M.; the march being conducted ten minutes at a walk and twenty minutes at a trot, alternately, during the first five hours, and ten minutes at a walk and twenty-five minutes at a trot during the last four and a half hours. A rest of one hour was given to the horses after the first part of the ride. At Galatz, the horses, after being groomed, got first a little hay, and then four kilograms of corn each, and were only watered half an hour before leaving for Barlad. The return was carried out under a strong head wind. Half-way the two officers halted, one for half an hour, the other, whose horse had had no previous training, for an hour and a

half. The former arrived at Barlad at 10.15 A. M., and the latter at 1.5 P. M. The distance, going and returning from Barlad to Galatz is about 218 kilometres, which was accomplished by the first officer in twenty-one hours fifteen minutes, and by the second in twenty-four hours and five minutes. On the day following their return their horses were inspected by the officer commanding the brigade, who found them in perfect condition.

AUTUMN MANŒUVRES.

Two series of army manœuvres will take place this autumn in France, under the general supervision of General Brugère, vice-president of the "Conseil supérieur de la guerre." The one will be in the Eastern district, at which the 1st, II^d, VIth and XXth Army Corps will take part, as well as the 2^d, 3^d (less the 1st Cuirassier brigade), the 4th and 5th Cavalry divisions. The other will be in the Western district, at which the following troops will assist, viz.: the XIth and XVIIIth Army Corps, the 34th Infantry brigade of the IXth Corps and the 46th of the XIIth Corps, the 1st Cuirassier brigade of the 3^d Cavalry division and the 7th Hussar regiment.

Divisional Cavalry manœuvres will also take place. At the first, the 7th Cavalry division and the 7th and 8th Cavalry brigades will take part. At the second, the 5th Cuirassier and the 6th Dragoon brigades, of the 6th Cavalry division, and the 14th Cavalry Brigade will be present.

Fortress manœuvres will take place at the Camp of Châlons. In addition to the above manœuvres there will be manœuvres in the Alps and the Vosges as well as in Algeria and Tunis. With regard to these, however, special instructions will be issued later.—*United Service Magazine*.



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Reviews.

History of the Cavalry of the Army of the Potomac.*

LIEUTENANT CHARLES D. RHODES, of the Sixth Cavalry, has issued through the Hudson-Kimberly Publishing Company, of Kansas City, a compact and discriminating history of the Cavalry of the Army of the Potomac, which cannot fail to interest the surviving officers of that remarkable force. It is, however, worthy of the special notice of officers and military students from the professional point of view. It exhibits clearly the transition from the period of the sabre, to that of the repeating carbine—from the close formation, and the charge in mass to the extended order and the charge on foot—from the practice of scattering the cavalry amongst the other arms, a squadron here, a regiment there, or attaching it to division and corps headquarters, without coherence or unity of action, to its concentration into masses, and its use as a separate corps on the flanks of the army, or in turning movements and independent expeditions against the flanks, rear and communications of the enemy.

Lieutenant Rhodes has with rare industry and discrimination dug out of the almost interminable records of the Rebellion, a consecutive and instructive statement not only of the actual deeds of the cavalry, under Pleasanton, Stoneman and Sheridan, but has indicated the direction in which the student must look for the causes which led to the organic and tactical evolution of modern cavalry. A further search of the records of the Cavalry Bureau, which have not yet been published, but which are to be found in the archives of the War Department, would have revealed the circumstances under which the Spencer magazine carbine was adopted and purchased for the cavalry service, and also those that led to the issuance of the regulations which resulted in revolutionizing the purchase and supply of cavalry horses. In this connection it is worthy of note that next after the collection of the great body of the mounted troops of the Army of the Potomac into separate corps, the adoption of the Spencer carbine and the supply of good sound cavalry horses, which resulted from the adoption of rigid rules for horse inspection, produced the greatest effect in bringing the Union cavalry service to the high state of efficiency which it reached during the closing year of the rebellion.

To these influences, even more than to its incomparable leadership, it owed its marked superiority over the Confederate cavalry, and its splendid efficiency in general campaigning. The first Cavalry Division in the world armed throughout with the magazine carbine, was the Third Division of the Cavalry Corps, Army of the Potomac, commanded by the writer, and it is believed that the first time the dismounted men of an entire cavalry division armed with magazine guns ever went into action with intervals of five feet and over between the files was at the battle of Kearneyville in the valley of Virginia. Upon this occasion the dismounted cavalry encountered Breckenridge's Corps

of Early's army on its march toward the Potomac, and so sudden and determined was the cavalry advance, and so effective was the fire of its new carbines, that the enemy's columns were halted and thrown into such confusion that he was compelled to suspend his forward movement, and retire to his defensive position about Winchester.

The transforming effect of these new arms was well exemplified by the confident and successful behavior of the Third Division at the crossing of the Opequan, where it captured an entire regiment of North Carolina infantry; at the battle of Winchester, where it captured the enemy's advance line of defense and held the ground on which Sheridan finally formed his infantry and gained his splendid victory over Early, and in its unbroken series of successes from that day till Lee laid down his arms at Appomattox. The author, who it will be remembered was a babe in arms when the deeds he describes were being enacted, has followed the career of the Eastern cavalry through all the vicissitudes of campaign and battle, growth and organization, to its final victories, with rare discrimination and ability, and what is still more surprising, without weakening or confusing his narrative by a multiplicity of unimportant details.

If he will now do for the Western cavalry what he has done for the Eastern, and unite the two in a single volume, diversifying the story with such personal and professional details as he can gather in reference to the principal officers, and their work in the development of the Union cavalry during the War of the Rebellion, he will make the most useful as well as the most interesting contribution to the history of modern warfare.

Lieutenant Rhodes, after a brief tour of staff and line duty in China, is now commanding his troop in the Philippines. He is a very intelligent and able officer, and it is hoped for the good of the service that he may soon have the opportunity of continuing his studies in the direction indicated.

* By Charles D. Rhodes, 1st Lieut. 6th U. S. Cavalry. Published by the Hudson-Kimberly Publishing Co., Kansas City, Mo.; 1900.

The Second Boer War, 1899-1900.*

Captain Wisser in his account of the Second Boer War, has given us a very readable book. A military history must necessarily be to a certain extent a dry statement of facts, of but little interest to any one but the military student. The story, however, as told by Captain Wisser, is extremely interesting; he has succeeded in so arranging his account of the various operations, that while the continuity of each campaign is maintained, the reader is always in touch with the operations in the different theatres of action. While no detail of importance, necessary to a thorough understanding of the various operations is omitted, nevertheless the reader's mind is kept so continually upon the action, that the interest does not flag. The subject is treated with perfect fairness to both sides; and the information is undoubtedly as accurate as it is possible to obtain it at the present time.

It is unfortunate that the author was not satisfied with the rôle of historian; criticism, especially of strategic operations, always detracts from the value of a book of this kind. What the military student desires, is an exact statement of what occurred; and it is exceedingly desirable that the relative importance of the various operations should not be colored, or be given any undue prominence, in consequence of the views of the author.

Criticism immediately casts a shadow of doubt over the historic accuracy of the story. There is always a fear, that the author, however conscientious he may be, will give unconsciously a greater preponderance to those facts which bear out his own views.

A distinction must be made, however, between criticism of strategic operations and logical deductions, or critical discussions of tactical operations which have actually occurred.

In the former case the criticism is simply a speculation as to what might or might not have occurred, had different action been taken, or had different plans been pursued.

While in the latter case, the discussion involves only the actual results of operations which actually took place.

Strategical criticisms are of little value to military literature, and almost always bring forth a reply, which produces more or less ill feeling, and generally tends in the end to confuse the historical situation.

Whereas the study of the lessons of the war, from the actual manœuvres, are always of great importance to the profession; and the generals themselves are forced to admit the truth of tactical mistakes, and are willing to discuss the lessons to be deduced therefrom. Whereas none are willing to admit strategical blunders.

The Lessons of the War, Attack and Defense, are most admirably deduced by Captain Wisser, and are worthy of most careful study, as here for the first time we are confronted with the practical results of the modern fire-arm, and the lessons to be drawn therefrom.

In a short and concise chapter the author has set forth the results of the artillery work, comparing that of the two armies. The lessons to be learned therefrom are exceedingly important. His conclusions, however, as to the Field Artillery of the future, coming as it does from an artillery officer, is a surprise and calls for a strong protest. The substitution of a "long range gun" for our present field-gun would be exceedingly unwise.

The first artillery lesson to be learned from the Second Boer War, is the great value of the rapid fire action, with spring return carriage and metallic ammunition, for all light guns whether for horse or field artillery.

The second artillery lesson is the old one which has been demonstrated time and time again, but has always failed to impress the theorist.

A single class of field-guns will not satisfy the requirements of war. It is absolutely necessary to maintain, in addition to the horse and field batteries, batteries of position armed with heavy long range guns and howitzers. Such batteries must not be confused with siege batteries.

The siege gun is carried upon its travelling bed, and cannot be brought into action until platforms are laid, and everything is prepared. The position battery must be able to go into action at once, and perform field service at long range, but is not expected to follow the infantry in its advance. In the case of a siege, either in attack or defense, such guns will be given more or less fixed positions, and will be used to silence other batteries or against troops, but they are not intended to reduce works, which is the function of the siege battery.

The function of the field battery proper is for service against troops. The most efficient service against troops is obtained by shrapnel fire; and to obtain the maximum effect with shrapnel fire, the muzzle velocity and consequently the range, must be limited. To materially increase the muzzle velocity of such

guns, would be to destroy their value as field-guns proper, while serving in the infantry line, and would be a great mistake.

The following equipment of an army would probably meet all the requirements of modern warfare.

Field Batteries Proper.—For Horse Artillery.—A 3-inch R.F. gun, 12-pounder, using metallic ammunition. For Field Artillery.—A 3-inch R.F. gun, 15-pounder, using metallic ammunition.

Position Batteries.—Howitzer Battery.—5-inch field howitzer. It is not necessary that this gun should be a rapid fire gun, although it should be mounted on a spring return carriage; and as it will often be used with reduced charges, metallic ammunition should not be used. Gun Battery.—3.6-inch field gun, 20 pounder. With this gun should be carried two sizes of cartridges, one giving a velocity of about 1600 f. s. to be employed when the gun is used as field-gun; and one giving a velocity of about 2000 f. s. to be employed when the gun is used as a position gun. Each gun should carry an anchor, which could be embedded in the ground, to assist in preventing recoil, when the maximum velocity is used in position work. This gun should not use metallic ammunition.

Light Siege Batteries.—Armed with 5-inch siege gun and 7-inch siege howitzer.

Heavy Siege Batteries.—Using 5-inch R.F. guns and 6-inch R.F. guns, on fixed mounts.

In the Boer War neither side were armed with position guns; but the Boers in consequence of certain advantages in reference to sights and fuses, and being furnished with shell, were enabled to use their guns as position guns at longer range than the British.

* By Capt. Jno. P. Wisser, U. S. Artillery Corps. Published by the Hudson-Kimberly Publishing Co., Kansas City, Mo.: 1901.

Practical Military Sketching.*

This handy pocket manual was prepared last year in South Africa. Its birthplace would indicate that the methods set forth have stood a successful trial in actual field operations.

It is especially devoted to sketching with plane table and clinometer, and incidentally tells of scales and their construction, and map reading, reducing and enlarging.

The three successive component operations of sketching—intersection, traversing and contouring—are explained in some detail; how to carry on the three simultaneously is briefly set forth.

In addition are found notes on the cavalry sketching case, magnetic compass, night marching, reconnaissance and road-making, and eight hints of service in the reconnaissance of a country. These additional notes are far from being as satisfactory as are the other contents.

The cavalry sketching case is scarcely more than touched on; eight lines are devoted to explaining how to use it, of which six explain how to carry it. The special feature of its compass setting is not given.

Reconnaissance is poorly treated. The author says "all the points about which information may be required are given at length in the text-book on 'Military Topography.'" He might with equal truth have made the same statement in connection with road making, the cavalry sketching case, and in

fact, all the subjects of the book under review, most of which with little change in wording may be found in the text-book prepared by Colonel Richards. One exception to this last statement should be noted : The author includes a note on using the watch as a compass, which Colonel Richards has omitted from later editions of his work, possibly for the very good reason, given in the first edition, that the direction of a meridian is determined by the watch method "*within about 20 degrees.*"

The phraseology employed might often be improved. We are told "to avoid a hill, it is allowable to go one side a distance of twenty times the vertical height to be avoided." Colonel Richards' preferable statement is "to avoid an ascent, it is allowable to increase the length of the road twenty times the vertical height avoided." Another instance : to find the pole star, prolong the distance between the pointers of the Great Bear about five times and "turn a little to the left." One more : the bearing of an object is defined to be the number of degrees between two stated lines, and these degrees are counted in a right-handed direction. From which of the two lines to count is only to be ascertained by inference elsewhere.

Apart from what is covered by the table of contents, the author claims the title of "Practical Military Sketching," and his book is of value to him who would learn how to sketch with plane table and clinometer. But if appetite grows with tasting, he had better obtain the more advanced work of Colonel Richards, which the book under review so often suggests. J. G. D. K.

* By C. F. Vander Byl, 16th Lancers. xvi + 75 pages, fully illustrated. Gale & Polden, Ltd. London and Aldershot.

How to Keep "Fit."*

One of the best little books ever intended for a soldier's use, is of the above title. It can be carried in the vest pocket, it is so small, and yet it contains a world of good advice as to what a soldier should do to keep well and in marching condition, particularly in campaigning, when men are apt to neglect themselves. So many troubles from which the soldier suffers may be prevented, and so many, when they have once happened, may be kept from getting worse, by a little knowledge of simple remedies.

* By Surg.-Capt. H. Waite, V. M. S., 2d W. V. Royal Engineers (Vols.) Published by Gale & Polden, Limited, Aldershot, Eng. Price 3d.

Notes on Reconnoitring in South Africa.*

These notes were written for the use of the author's friend, who was going to the front, and who, having gone to Cape Town, was not acquainted with the special features and peculiarities of the country. The advice contained therein is good and wholesome, and reminds us of the days of scouting on the great plains of America before the numerous overland railroads civilized the country. What to do on the subject of "scouting" is good for any country, and the little book should be of value to all soldiers who may have this important duty to perform.

* By R. C. M. Published by Longmans, Green & Co., London and New York. Price one shilling.

At Home with Tommy Atkins.*

This is an attractive little volume in which the author gives the daily rout-

ine of the life of a soldier in the English army. It is "not a highly colored and romantic account, but a true and simple story of a soldier's life as it is daily enacted." The book is attractively illustrated by a number of photographs of Tommy Atkins in the various phases of his life as a soldier.

*By Callum Beg. Published by Gale & Polden, Ltd., London and Aldershot. Price 1 shilling.

Names of those to whom Gold Medals have been Awarded for Prize Essays.

- 1880. **Gibbon, John**; Col. 7th U. S. Infantry and Bvt. Maj.-Gen'l, U. S. A.
Subject.—"Our Indian Question."
- 1881. (No subject for competition.)
- 1882. **Lazelle, Henry M.**; Lieut.-Col. 23d U. S. Infantry.
Subject.—"The Important Improvements in the Art of War During the Last Twenty Years, and their Probable Effect on Future Military Operations."
- 1883. **Wagner, Arthur L.**; Lieut. 6th U. S. Infantry.
Subject.—"The Military Necessities of the United States, and the Best Provisions for Meeting Them."
- 1884. **Price, George F.**; Capt. 5th U. S. Cavalry.
Subject.—"The Necessity for Closer Relations Between the Army and the People, and the Best Method to Accomplish the Result."
- 1885. **Woodhull, A. A.**; Bvt.-Lieut. Col., and Surgeon, U. S. A.
Subject.—"The Enlisted Soldier."
- 1886. **Woodruff, Thomas M.**; Lieut. 5th U. S. Infantry.
Subject.—"Our Northern Frontier."
- 1887. **Sharpe, Alfred C.**; Lieut. 22d U. S. Infantry.
Subject.—"Organization and Training of a National Reserve for Military Service."
- 1888. (No Gold Medal awarded.)
Subject.—"The Danger to the Country from the Lack of Preparation for War."
- 1889. **Read, G. W.**; Lieut. 5th U. S. Cavalry.
Subject.—"A Practical Scheme for Training the Regular Army in Field Duties for War."
- 1890. (No subject for competition.)
- 1891. **Reed, H. A.**; Lieut. 2d U. S. Artillery.
Subject.—"The Terrain in its Relations to Military Operations."
- 1892. **Stuart, S. E.**; Lieut. Ordnance, U. S. A.
Subject.—"The Army Organization best Adapted to a Republican Form of Government, which will Ensure an Effective Force."
- 1893. **Scriven, G. P.**; Captain Signal Corps, U. S. A.
Subject.—"The Nicaragua Canal in its Military Aspects."
- 1894. **Ellis, E. A.**; Captain 8th U. S. Cavalry.
Subject.—"Discipline; Its Importance to an Armed Force, and the Best Means of Promoting and Maintaining it in the United States Army."

1895. **Sharpe, H. G.** ; Captain Subsistence Dept., U. S. A.
Subject.—"The Art of Supplying Armies in the Field, as Exemplified During the Civil War."
1896. **Pettit, J. S.** ; Captain 1st U. S. Infantry.
Subject.—"The Proper Military Instruction for our Officers. The Method to be Employed, its Scope, and Further Development."
1897. **Foote, S. M.** ; Lieut. 4th U. S. Artillery.
Subject.—"Based on the Present Conditions, and Past Experiences, How Should our Volunteer Armies be Raised, Organized, Trained, and Mobilized for Future Wars?"
1898. (No Essays received in competition)
Subject.—"Our Water Boundaries, and our Interior Waterways ; How to Utilize and Defend them ; Their Influence in Case of Invasion."
1899. **Britton, Edward E.** ; (Sup. Colonel N. G. N. Y.)
Subject.—"In What Way Can the National Guard be Modified, so as to Make it an Effective Reserve to the Regular Army in Both War and Peace."
1900. (No Gold Medal awarded.)
Subject.—"The Organization of a Staff Best Adapted for the United States Army."

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